ROYAL INFIRMARY, EDINBURGH.

Clinical Observations

DURING THE WINTER SESSION, 1860-61.

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No. V.—ILEUS.

Intestinal obstruction, probably in the colon; the cause obscure—Evidence of liquid and gaseous distension of the small intestine and stomach; of solid matter, but not distinct tumour, in colon—Importance of the diagnosis as to the seat and character of the obstruction; question of operation—Continued use of enemata and the long flexible tube—Stercoraceous vomiting, increasing for some days; hiccup; approach to collapse—At the end of the fourteenth day of the disease, passage of liquid faeces; spontaneous diarrhœa; cessation of vomiting and complete recovery—Reference to another similar case.

(Friday, November 16th, 1860.)

GENTLEMEN,—A young girl now in the ward, Susan Mc——, aged ten years, is, I am afraid, in a state of considerable danger. She was admitted two days ago (Nov. 14th). To all appearance, she had been a very healthy girl, and she has even now a fine fresh complexion, and is in good condition. She took ill only four days before admission, when she complained of intense headache and abdominal pain. On the same day she vomited a good deal of greenish matter, and this vomiting was repeated every day to a great extent, except on the day immediately before her admission, when she took no food, and did not vomit. She was very thirsty during the whole of this period, and her bowels were constipated; when she took senna and salts to relieve them, the medicine was vomited almost immediately. All her food, too, since the beginning of her illness, has been brought up within a short period after being taken, and there has been no proper alvine evacuation during the whole of these six days.

I need not tell you that these are the symptoms of a mechanical obstruction of the bowels—of what is called ileus, in fact. In this girl we found, on the day after admission (yesterday), the pulse numbering 100, and small; the tongue was rather dry in the centre and slightly furred; there was, however, no great amount of fever; the skin was cool and natural, and the expression not that of fever; no flushing, no eruption of any kind, the complexion quite clear and natural. We found, on examining the abdomen, a considerable amount of tension and gaseous swelling, marked by tympanitic percussion all over, except in the left flank, where the percussion was rather dull. There was no great amount of tenderness on pressure, though the handling of the abdomen caused a sort of hysterical agitation. You recollect that we paid particular attention to this point, as there was a reasonable suspicion of peritonitis; but I arrived at the conclusion that the tenderness was not such as we usually meet with in acute peritonitis.

In all such cases as this you should examine with great care to find, if possible, the seat of the obstruction. It is a matter of the most vital consequence in any case, but more especially if you should be led to entertain the question of a surgical operation. Now, in the first place, this girl has not, and never has had, anything like a hernia: this is the first point to be determined in such cases. The dulness on percussion in the left flank leads to the suspicion of some local mischief there; and on careful manipulation of the abdomen, it certainly seems as if there is an increased resistance, and a less elastic character of the parts there, than on the right side. We fail, however, to make out anything like a defined tumour. What shows that the small intestine and stomach are persistently over-distended is, that you can see the peristaltic contractions mapping out these viscera upon the abdominal wall, the small intestine being obviously much larger than it ought to be, and gurgling a good deal on movement of the parts. There is therefore an obstruction, and it is probably in the colon; above the seat of obstruction the bowels are distended with gas and liquids; but further than this we get no information from the physical examination.

To-day I find that our little patient is not any worse; there has been a very little scybalous matter in the large injections, which have been used frequently and carefully since admission. It is very little indeed, and there is not the smallest attempt at spontaneous evacuation of the bowel; still, slight as the evidence is, it serves to raise this question, May there not be an impaction of fecal matter in the colon that may be removed? It is a very important question for the patient, inasmuch as the diagnosis probably lies between this and an intussusception of the bowel, a volvulus, and I need hardly tell you how bad the prognosis is in that case.

The best view we can take of the case for the present is to suppose it a fecal impaction, though there is no evidence of long-continued constipation preceding the more aggravated symptoms. Acting on this view, I propose to get a long flexible tube passed carefully along the descending up to the transverse colon (after the manner of Dr. O'Beirne), so that we may wash out the bowel as high up as possible; for the rectum must be already pretty well cleared, and also the lower part of the colon, by the large enemata administered since admission. If this method fails, the prognosis is bad, for the probability then will be, that there is a permanent obstruction, most likely an intussusception. Even in this case we shall not altogether give up hope of a spontaneous cure, for intussusception sometimes cures itself (as I dare say some of you know) by the separation of the strangulated portion of bowel, and its passage downwards per anum. This is rare, certainly, and still more rare is the cure of a long-continued and complete obstruction, with stercoraceous vomiting for days, and without any evidence of destruction of texture; yet I had once an opportunity of seeing a case of this kind, at some distance from Edinburgh, which ended in a complete and permanent recovery after fifteen days' complete obstruction. We shall, therefore, not allow ourselves to despair; but the case of our little patient here is one of a very serious character, and we shall be very anxious about her for many days to come; it may even become a question whether to perform a surgical operation for her relief. The objection to an operation, or rather the difficulty of deciding upon it even in extremity, in a case like this, arises from the great uncertainty of the diagnosis. We know that there is an obstruction, but we have no exact knowledge where it is, or what it is. We therefore have a natural, almost an insuperable, indisposition to lay open the abdomen on speculation. Let me add, that if the vomiting continue and the pain become severe, I shall give opium to allay it. Hitherto this has not been necessary.

(Friday, November 23rd.)

I revert to the case of that poor young girl with obstructed bowels. It is like to be a sad story, for she has got no relief, although Dr. O'Beirne's tube has been very carefully used many times a day all this last week by the resident physician (Dr. P. A. Simpson). She has now been almost thirteen entire days ill, and except a few more small scybalæ, almost destitute of bile, brought away by the injections, not a single ounce of feculent matter has passed through the bowels. Meantime the vomiting continues, and looks worse and worse; for the last two or three days it has been very frequent, and in colour and odour absolutely stercoraceous; there is also hiccup to a considerable extent. Nothing can be worse than this combination of symptoms: I am afraid we must give up the theory of mere fecal obstruction here; there is either intussusception, or, if not intussusception, some bridle of lymph confining a coil of the bowel, or a loop of intestine twisted and knotted in some inextricable way, or, possibly, a contraction of the calibre of the bowel itself. The first of these is the most common, and therefore the most probable; it is also fully as consistent with the symptoms in this case as any other view. Still, there has not been the extremely agonizing pain which usually accompanies ileus, from whatever organic cause. Dr. Brinton, who has investigated intestinal obstructions generally with very great care and exactness, and to whose admirable lectures in THE LANCET for 1859 I would refer you for further information on the subject, has found, statistically, from a large basis of induction, that intussusception is by far the most frequent cause of obstruction in young persons; and that intussusception is greatly more common at the ileo-cæcal valve than anywhere else; the small intestine being invaginated into the colon, and the upper portion of the colon into the

lower. Dr. Brinton is also of opinion that there is a relation between the position of the obstruction and the rapidity with which fecal vomiting occurs. In this case it has been rather long of setting in; moreover, the greater part of the small intestine can be seen to be over-distended, and its peristaltic action is easily observed and felt under the hand: it is highly probable, therefore, that the obstruction is in the colon. Would there be any chance of doing good by an operation? and if so, what ought to be done? I cannot tell you how much I have felt the responsibility of this case. It is a terrible thing to see a poor young creature, full of life and of the capacity for enjoyment not a fortnight ago, dying slowly under our eyes; and if this girl is not relieved soon by nature or art, she must die. Yet I cannot think we should be justified in operating, for we can have no idea what we should find. No doubt there is an absence of some of the most serious complications, and particularly of acute peritonitis—that is a favourable circumstance; but even that we are not quite sure of, and in other respects the chances of cure by operation are of the most extremely doubtful character; in short, I do not regard it as at all an encouraging case for an operation. On the other hand, I cling to the hope that nature has a remedy in store. It is wonderful, certainly, how this brave little girl holds up. She is not a bit discouraged, and shrinks from nothing; notwithstanding all the vomiting and the hiccup, and the repulsive process of injection so often repeated, and latterly the horribly sickening odour of the vomited matters, she is not altogether prostrate; she has some pulse, and it is not much hurried; nor is there any fever or shivering. We must, I think, leave her to nature. I have not, however, come to this determination at once, or upon my own exclusive responsibility. Mr. Spence, who was kind enough to see the patient frequently along with me, and who watched the progress of the symptoms, is of the same opinion. I did not indicate my opinion to him, as my own mind was not quite made up; but we both came to nearly the same conclusion, and on the same grounds. I should add, that Mr. Spence suggested a trial of calomel and opium; but it had to be abandoned after twenty-four hours, from its very decidedly increasing the vomiting. We have of late been giving her as little as possible by the mouth—only some ice-cold liquids; and we have used nutritive enemata with a little wine, from time to time, to sustain the system under this protracted trial.

(Friday, November 30th.)

I am very happy indeed to tell you, that our case of obstructed bowels is now safe. Our expectant policy is fully justified. You will recollect that I felt so strongly the responsibility of standing by to see this patient die (as seemed likely) that I asked Mr. Spence to see her with me; not to urge him to operate, but in order that he might relieve our minds of some of the responsibility of not operating. I was led to believe, as I told you in general terms, that nature is not without resources, even in the most apparently desperate of these cases; and that not to operate is, on the whole, safer than to operate, unless you can get reasonably good evidence of the character and seat of the obstruction, which we could not in the present instance. Further than this I do not go into the question of operation, which is one that has given rise to much controversy amongst surgeons.

But the most curious fact connected with the present case is, not the recovery of this girl, but that she has recovered without any evidence of organic change. Had it been an intussusception we could hardly have failed, after so long a strangulation of the bowel, to have had a considerable piece of it passed per anum. Had there been any other form of organic tightening or twisting of the bowel, there must, one would think, have been peritonitis; and there must have been, in all probability, some remaining evidence that all is not right. There is nothing of all this. At last lecture I told you we had purely fecal vomiting of some days' standing, hiccup, considerable prostration, somewhat, in fact, like an approach to choleraic collapse; the expression of countenance was getting to be very Hippocratic; but there was little or no fever, properly so called; the pulse was almost never much above 100; the skin never hot or sweating; the face never flushed; and there was never, from first to last, any marked tenderness of the abdomen on pressure. She passed nothing spontaneously up to the 24th (the day after lecture); but a few more almost colourless scybalæ were brought away by injection. At last, however, there began to be a slight oozing of liquid matters, very fetid, and *so exactly similar to what had been vomited just before, that I absolutely could not tell the one from the other.* After this the stools became more and more copious; and now for some days she has had more than enough of it. There has been quite a copious diarrhœa, which in her exhausted condition has been very trying to her, and accordingly many stools have been passed in bed. On some occasions when I saw her she was very drowsy, or rather almost comatose or cataleptic, and could not be brought to speak or move; but, at other times, she was tolerably brisk, and never had either fever or delirium. There never was a single drop of blood in the dejections, nor the smallest trace of a slough. She is now well on the road to a complete recovery. [She, in fact, recovered without a bad symptom from this time forward.]

It is so difficult to give any opinion upon the exact pathology of a case of obstruction like this, that it is better, on the whole, simply to confess entire ignorance. I have already referred you to one case extremely like it, which I saw with Dr. Archibald, of St. Andrews, in which, after equally urgent symptoms, the patient was relieved on the fifteenth day, and recovered perfectly without any evidence of organic change. In this case the patient was a married woman, the mother of a family, and a valuable life. It was, of course, so much the more fitted to cause anxiety; and the question of operation was fully before our minds, but was decided in the same way as in this case, and with the like result. It is exceedingly difficult to know at what point such a case becomes hopeless; and this after all is the great objection—the only real objection—to an operation; for if the certainty of death without operation were clearly before our eyes, it would be right in such cases to operate at all hazards. Keep these facts, therefore, always before your mind, even though we cannot explain them clearly. In Dr. Archibald's case there was something like a suspicion that pregnancy or delivery and its sequelæ might have given rise to some alteration in the relations of the abdominal viscera. But, in any case, the cure was complete, and that is the chief point to attend to.

ON THE

MOLECULAR THEORY OF ORGANIZATION.

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PARODYING the celebrated expression of Harvey—viz., "Omne animal ex ovo," it has been attempted to formularize the law of development by the expression, "Omnis cellula e cellula," and to maintain "that we must not transfer the seat of real action to any point beyond the cell."* In the attempts which have been made to support this exclusive doctrine, and to give all the tissues and all vital properties a cell origin, the great importance of the molecular element, it seems to me, has been strangely overlooked. It becomes important, therefore, to show that real action, both physical and vital, may be seated in minute particles, or molecules much smaller than cells, and that we must obtain a knowledge of such action in these molecules if we desire to comprehend the laws of organization. To this end I beg to direct attention—

1st. To a description of the nature and mode of origin of organic molecules.

2nd. To a demonstration of the fact that these molecules possess inherent powers or forces, and are present in all those tissues which manifest vital force.

3rd. To a law which governs the combination, arrangement, and behaviour of these molecules during the development of organized tissue.

I. By a *molecule* is to be understood a minute body, seen under high magnifying powers in all organic fluids and textures, varying in size from the four thousandth of an inch down to a scarcely-visible point, which may be calculated at much less than the twenty thousandth of an inch in diameter. Optically it is distinguished according to its size, the smallest presenting dark or light points as the focus is changed, and the larger exhibiting a dark or light centre, surrounded by a distinctly-shadowed ring. These last are frequently distinguished by the name of *granules*. The ultimate molecule has never been reached even with the highest magnifying powers. In the same manner that the astronomer with his telescope resolves nebulæ into clusters of stars and sees other nebulæ beyond them, so the histologist with his microscope magnifies molecules

* Virchow, English Translation, p. 3.

into granules and sees further molecules come into view. The chemical composition of these molecules must vary infinitely, but I have been in the habit of classifying them into three groups, and referring them to (1st) the albuminous, (2nd) the fatty, and (3rd) the mineral compounds. These constituents may be mingled together in various proportions so as to produce simple and compound molecules. In the vast majority of cases they are globular in shape, but they may be angular, square, and of various forms. They may differ in size or be of tolerably uniform size in the same liquid or substance. They may be regularly or irregularly diffused in the matter examined. Sometimes they are concentrated in particular places, and at others scattered in groups. Their colour is various. Most of the pigments in plants and animals are dependent on the formation of molecules, which in the human lung have been proved to be pure carbon, and in the tissues of plants and animals differently tinted kinds of fat or of wax.

These molecules may be formed in two different ways: 1st, by precipitation in fluids; 2nd, by the disintegration of previously formed tissues. The former may be called *histogenetic* (ιστος and γενεσις, *generatio*), and the latter *histolytic* (ιστος and λυσις, *dissolutio*). They may be denominated molecules of formation and molecules of disintegration.

Histogenetic molecules are formed either from the union of two simple organic fluids, or from precipitations occurring in formative fluids, holding various substances in solution. Fourteen years ago I read to the Royal Society of Edinburgh a paper giving an account of the results obtained by a union of oil and liquid albumen, the two organic fluids from which molecular matter is most commonly derived. It was Dr. Ascherson of Berlin who first discovered the important fact, that the mere contact of oil and fluid albumen caused the latter to coagulate in the form of a membrane, which he called the haptogen membrane, from ἁπτομαι, to come in contact. A more complete mixture of two such drops produces, as is well known, a white opaque fluid or emulsion, which in structure exactly resembles milk. That is to say, it consists of molecules composed of a drop of oil surrounded by a layer or membrane of coagulated albumen. Such compound molecules possessing the property of endosmose may therefore readily be produced artificially, and by trituration can be reduced in size so as to resemble the elementary molecules in chyle or in the yelk of an egg. If oil and albumen be introduced into the stomach and intestinal canal, they are always so reduced; and one of the objects of digestion would appear to be, separating from the food and rendering fluid its oil and albumen, so as to produce the chyle molecules which are ultimately transformed into blood. Indeed, everywhere in living organisms it may be observed that oil and albumen, formed as secretions by plants, and entering the bodies of animals as food, either separately or united, constitute the chief origin of molecular formations.

Mr. Rainey has recently pointed out the condition which causes molecular mineral matter to assume the form of rounded nuclear bodies.* This condition is viscosity. If carbonate of lime be dissolved in water, the forms produced on its precipitation are crystalline; but if the fluid be glutinous—composed, for example, of fluid, gelatine, or gum—the forms produced are oval or globular. Precipitations made in this way on slides of glass, closely resemble the appearances called nuclear or cellular in different stages of development. Mr. Rainey has further shown how starch granules are produced in the juices of vegetables by the endosmose of gum into a cell containing a solution of dextrine.† In the same manner that the contact of oil and albumen produces oleo-albuminous molecules, so does the contact of gum and dextrine precipitate starch molecules. In this manner we can comprehend how the mixture of various organic fluids gives rise to particles of different kinds.

Histolytic molecules are the result of the transformation and disintegration of fluid and solid substances by chemical or mechanical action. They are generally larger in size than histogenetic molecules, are more purely fatty, and, from being associated with the *débris* of broken-down texture, may in most instances be readily distinguished. Thus in the breaking up of cells and of muscles when they become fatty, or in the putrefaction of vegetable or animal matters, these may be seen to soften, lose their peculiar structure, break up, and ultimately be reduced to a molecular condition.

We shall subsequently see that these two kinds of molecules are constantly changing places; or, in other words, molecular matter formed from the process of disintegration may, when placed under peculiar circumstances, become the basis of matter which undergoes development. In nature, the breaking down of one substance is the necessary step to the formation of another; and the histolytic or disintegrative molecules of one period become the histogenetic or formative molecules of another. This fact constitutes the basis of the law which I shall subsequently seek to establish.

II. These molecules are governed by forces, which induce amongst them a variety of movements, and cause them to combine in definite ways. This force, which we may call *molecular force*, is altogether independent of cell, nucleus, or other form of structure.

1st. There are the well-known molecular movements described by Robert Brown. These vibratile, circular, serpentine, or irregular motions may be observed whenever molecules are suspended in fluids of certain densities, but are too well known to require notice here. They occur altogether independent of organized structures, and must be regarded as in their nature purely physical.

2nd. The peculiar movements observed in the interior of cells, vegetable or animal, and during the putrefaction of organic matter. The former are seen in the large vegetable cells of the Chara, Valisneria, and Tradescantia, amongst plants; and those of chyle, the yelk of the egg, and of the salivary cell amongst animals. I have frequently watched the formation of the latter in putrid fluids. A scum, composed of molecules, collects on the surface; gradually several of these unite in minute filaments, more or less long, which assume vibratile or serpentine movements. They are then called *vibriones*. It has been much disputed whether this class of molecular motions be physical or vital.

3rd. The movements, which are unquestionably vital, that occur in the molecules of the yelk, on the entrance into the ovum of the spermatozoid. Here it cannot be maintained that the results are purely physical, because in different ova we see such widely-varying effects from apparently the same cause. Neither can it be attributed to any direct influence of the cell or of its nucleus—the germinal vesicle. For example, an egg is fully maturated in the female organs of generation, and would prove abortive if a spermatozoid did not find its way through the zona-pellucida and get amongst the molecules of the yelk. As soon as it does so, the apparently purposeless Brunonian movements receive a new impulse and direction. Both spermatozoid and germinal vesicle are dissolved amongst them; and that wonderful phenomenon of the division of the yelk takes place, not by cleavage or other action of the cell-wall or nucleus, but by the separation of the mass into two masses instead of one. This may be compared to what is observable in a dense crowd of men, called upon to pass over to the right or left hand in order to settle any disputed question by a majority. At first unusual confusion is communicated to the whole; some hurry in one direction, others in another; but, after a time, there is seen at the margins, where the crowd is least dense, a clear space, which gradually approaches the centre, and at length bisecting the whole, produces a complete segregation of the crowd into two portions. So with the molecules of the yelk in the egg after impregnation; their movements are directed by conditions which did not previously exist, and a stimulus is imparted to them which causes the peculiar result. It is the division and subdivision of the yelk, wholly or in part, which produce the germinal mass out of which the embryo is formed, and this not by any direct influence of the cell or nucleus, but in consequence of a power inherent in the molecules themselves, which is communicated to them for a specific purpose.

4th. The peculiar movements so well described by Brücke, Von Wittich, Harless, and especially by Lister, in the pigment-cells of the frog's skin;* and which occasion the sudden change of colour in the cameleon, in fishes, and numerous other animals. The black pigment molecules may be diffused throughout the cell or concentrated in a mass, and all kinds of intermediate gradations may exist between diffusion and concentration. The change in colour is owing to these alterations in the molecules, the tint being light when they are concentrated, and dark when they are diffused. Mr. Lister ascertained by experiment that their concentration is caused by exposure to light, by death of the animal, and by sudden section of the nerve going to the skin; while darkness and irritation of the nerve or skin causes diffusion. Sudden amputation of a limb produced at first diffusion, followed by the concentration of death. These movements of the pigment molecules are peculiarly vital, and altogether independent of the cell-wall or

* On the Mode of Formation of Shells of Animals, of Bone, and of several other Structures, by a process of Molecular Coalescence, &c. By Geo. Rainey, M.R.C.S. London, 1858.

† Microscopical Journal, 1859.

* On the Cutaneous Pigmentary System of the Frog.—Philosophical Transactions, 1858.

nucleus. The cell-wall is stationary, and acts only as a sac or investing membrane around the moving particles, while the concentration of these about the nucleus is purely accidental, and frequently occurs in other parts of the cell. I have seen these molecules myself, as Mr. Lister describes them, streaming out to, and returning from, the circumference under the influence of the stimuli referred to, where no cell nor nuclear action could be thought of.

5th. There are many other kinds of movements which are evidently independent of cells—for example, those of cilia and of spermatozoids. The former are outside cells, and the latter only move when they are liberated from cells. The contractile fibrillæ of muscle are evidently not dependent for their inherent power on cells or other form of structure, but on the square-shaped molecules of which its substance is composed. All these phenomena, therefore, are connected with the molecules themselves; the force occasioning them is a molecular force, and has nothing to do with pre-existing cells, or supposed germinal centres, as some have imagined.

Again, the power of combination between these molecules, which, under peculiar conditions, not only move, but so move as to advance towards and press upon each other, that they at length unite and produce higher forms, must also be attributed to a molecular force operating in obedience to fixed laws. Thus it was demonstrated by Newton, that in a sphere the total attraction resulting from the particular attraction of all its component parts is, as regards any body drawn towards it, the same as if they had been concentrated at the centre. Hence minute spherical particles, as so many gravitating points, will be drawn towards each other with a force varying inversely as the squares of the distances between their respective centres. I may here refer to the able descriptions of Mr. Rainey,* as to the physical laws regulating the formation and disintegration of bodies by molecular attraction and repulsion as well as to the effects of molecular superposition, showing that the same physical power which leads to the formation of these artificial bodies, when long continued, causes their disintegration and destruction. All these changes occur slowly, and require time; but their contemplation, when regarded as purely physical phenomena, must strike us with surprise, as being closely allied to all our conceptions of the progress of life itself.

In making use of the expressions *life* and *vital action*, I am only using terms to indicate phenomena which, in the present state of science, cannot be accounted for by the ordinary laws of physics. Or it might be said that certain actions are directed and governed by conditions which are as yet undetermined, but which, as they only occur in organic, as distinguished from inorganic bodies, constitute vital actions. Not that an organized body is independent of physical forces, but that certain directions are communicated to them, which, as invariably resulting in specific forms or properties, make up the sum of what we call vitality.

Hence, although we see molecules combining in the forms of crystals and nucleated spherules, inasmuch as we have discovered the physical conditions on which they depend, and can produce them artificially, we have no difficulty in classifying these amongst purely physical phenomena, even when they occur in the interior of animals. But when other molecules unite to form nuclei, cells, and fibres, and these arrange themselves into tissues and organs to produce plants and animals, we are ignorant of the conditions by which these results are brought about—we cannot imitate them artificially, and are content to call them vital. But the fact I am anxious to point out is this, that so far as observation and research have enabled us to investigate this difficult matter, it appears that the formations and disintegrations of vegetables and animals, as well as the peculiar properties they exhibit, are essentially connected with the molecular element. Thus, when we investigate the functions of plants and animals—for example, generation, nutrition, secretion, motion, and sensation—we find them all necessarily dependent on the permanent existence and constant formation of molecules.

Thus generation, both in plants and animals, is accomplished by the union of certain molecular particles called the male and female elements of reproduction. Amongst the Protophyta the conjugation of two cells enables their contents, or the endochrome, to mix together. This endochrome is a mass of coloured molecules, and the union of two such masses constitutes the essential part of the generative act. In the Cryptogamia, a vibratile antheroid particle enters a germ-cell, and finds this last filled with a mass of molecules, which, on receiving the stimulus it imparts, assumes the power of growth. It is the same amongst the Phanerogamia, when the germ-cell is impregnated by the pollen tube. In all these cases it is necessary to remember that the protoplasm is a mass of molecules; that a spore is another mass of molecules; that sporules are molecules; that antherozoids are only molecules with vibratile appendages; and that the so-called germinal matter of the ovule is also nothing but a mass of molecules. Cell-forms are subsequent processes, and once produced may multiply endogenously, by gemmation or cleavage; all that is here contended for is, that the primary form is molecular, and that the force producing action in it is a molecular force.

In animals, as in vegetables, every primary act of generation is brought about by the agency of molecules. The Protozoa entirely consist of mere molecular gelatiniform masses, in which it has never been pretended that a cell-wall or central cell exists. And yet such masses have the power of independent motion, and of multiplying by gemmation. Considerable discussion has occurred as to whether, amongst Infusorians, there is a union of sexes or a conjugation similar to what occurs amongst the Protophyta; but in either case it is by molecular fusion that the end is accomplished. In the higher classes of animals there are male elements, consisting of molecules, generally with but sometimes destitute of vibratile filaments; and female elements, composed of the yelk within the ovum, containing a germinal vesicle or included cell. Both spermatozoid and germinal vesicle are dissolved in the molecules of the yelk, which then, either wholly or in part, by successive divisions and transformations, constitute a germinal mass out of which the embryo is formed. Here, as in plants, it is necessary to remember that the spermatozoids, the yelk, and the germinal mass are all composed of molecules, and that these, combining together, form the nuclei, cells, fibres, and membranes which build up the tissues and organs of the organism. It is not from either the male or the female element that the embryo is formed. The supporters of an exclusive cell doctrine have endeavoured to show that there is always a direct descent either from the wall of the ovum or from the germinal vesicle as its nucleus. Thus some consider that the vitelline membrane sends in partitions to divide the yelk mechanically. Others have formed the idea that the germinal vesicle bursts, and that its included granules constitute the germs of those cells which subsequently form in the germinal mass. Others, again, suppose that on impregnation the germinal vesicle divides first, and that the molecules of the yelk are attracted round the two centres so formed. But numerous observations have satisfied me that both spermatozoid and germinal vesicle are simply dissolved amongst the molecules of the yelk, from the substance of which, stimulated and modified by the mixture so occasioned, the embryo is formed; a view which has further the merit of explaining what is known of the qualities of both parents observable in the offspring. I am only acquainted with one exception to this general law—namely, the development of *Pyrozoma*, recently described by Mr. Huxley, the description of which, however, is incomplete.* The truth appears to be, that in an analogous manner to that in which the pigment molecules of the skin are stimulated by the access of light to enter into certain vital combinations with one another, so are the molecules of the yelk stimulated by the access of the spermatozoid to produce those other vital combinations that result in a new being. The essential action is not so much connected, as has hitherto been supposed, with the cell-wall or nucleus as with the molecular element of the ovum.

With regard to nutrition—food and all assimilable material must be reduced in the first instance to the molecular form, while the fluid from which the blood is prepared—viz., chyle—is essentially molecular. Most of the secretions originate in the effusion of a fluid into the gland-follicle, which becomes molecular and gives rise to cell-formation. In muscle, the power of contractility is inherently associated with the ultimate molecules of which the fasciculus is composed; and, lastly, the grey matter of the sensory ganglia and of the brain, which furnishes the conditions necessary for the exercise of secretion, and of even intellect itself, is associated with layers of molecules which are unquestionably active in producing the various modifications of nervous force. These molecules are constant and permanent as an integral part of these tissues, as much as cells or fibres are essential parts of others, and their function is not transitory, but essential to the organs to which they belong.

All these facts point to the conclusion that vital action, so far from being exclusively seated in cells, is also intimately associated with the elementary molecules of the organism.

III. This leads me, in the third place, to an enunciation of

* *Op. cit.* See also papers in the Microscopical Journal, 1860.

* Annals of Natural History, Jan. 1860, p. 36.

the molecular law of growth, which a study of the numerous facts previously referred to has induced me to frame—viz.: *That the development and growth of organic tissues are primarily owing to the successive formation of histogenetic and histolytic molecules.* We have already seen that development and growth in animals originate in the molecules of the yelk of the egg, or of a germinal molecular mass formed from it. From numerous careful researches recognised by scientific men as giving a correct account of the development of various animals and textures, it would appear that the first form is molecular; that the molecules unite to produce nuclei and cells; that these become disintegrated to produce a secondary mass of molecules; that these again unite to form secondary nuclei and cells; and that the same process is repeated more or less often in various developments, until the animal or tissue is formed. This constitutes the successive histogenetic and histolytic molecules observable in the process of growth—the former building up, to a certain extent, and the product disintegrating to produce the latter, which after a time, again, re-arranges itself and becomes histogenetic to form cells or tissues, which in their turn break down and become histolytic. In short, not only development, but growth and secretion, absorption and excretion, are only different names given to histogenetic and histolytic processes, and these are brought about by formative and disintegrative molecules. As illustrations of this law, I may refer to the development of *Ascarix mystax*, as described by Nelson,* and of the process of nutrition in the human body.

In this, and a vast number of similar observations, it must be evident that a certain series of molecular transformations is necessary for the one which follows it. Thereby is produced a continual elaboration of matter,—a constant chemical and morphological series of changes,—the exact number and order of which, in the production of organic forms, only require time and perseverance to discover. Doubtless various conditions, dynamical, chemical, and vital, must co-operate in producing the result, and they must all influence molecular as well as every other kind of combination. Such considerations and facts must convince us of the error of endeavouring to place the source of special vital action in any particular form or arrangement of organic matter, whether fibre, cell, nucleus, or molecule. Each and all of these elements have their vital endowments, which re-operate on the others. But, inasmuch as the molecular element is the first as well as the last form which organized matter assumes, it must constitute the principal foundation of organization itself.

It is not my object, in directing attention to a molecular theory of organization, to interfere in any way with the well-observed facts on which physiologists have based what has been called the cell-theory of growth. True, this last will require modification, in so far as unknown processes of growth have been hypothetically ascribed to the direct metamorphosis of cell elements. But a cell once formed may produce other cells by buds, by division, or by proliferation, without a new act of generation, in the same manner that many plants and animals do; and this fact comprehends most of the admitted observations having reference to the cell doctrine. The molecular, therefore, is in no way opposed to a true cell-theory of growth, but constitutes a wider generalization and a broader basis for its operations. Neither does it give any countenance to the doctrines of equivocal or spontaneous generation. It is not a fortuitous concourse of molecules that can give rise to a plant or animal, but only such a molecular mass as descends from parents, and receives the appropriate stimulus to act in certain directions.

In conclusion, the theory I have endeavoured to establish on histological and physiological grounds is fully supported by all the known facts of disease and of morbid growths, which further serve to show that pathology, so far from being cellular, is, in truth, molecular.

Edinburgh, May, 1861.

* Philosophical Transactions, 1850, plates xxviii., xxix., figs. 59, 68, 70, 78.

THE ALCOHOL QUESTION.

BY DANIEL HOOPER, B.A. & M.B. Lond.

How do alcoholic liquors act on the human body—as foods or as poisons?—and is their regular and moderate use beneficial or injurious? These are questions to which our most eminent physicians and physiologists give contradictory answers, and the intelligent and reading classes appeal to them in justification of their habits of indulgence or abstinence; they take or avoid alcoholic liquors systematically, and on principle, and the practice in either case is based upon a scientific truth or a scientific error. It is therefore of the highest importance, both for the sake of the public health and of science, that those to whom we naturally look for guidance in these matters should come to some definite and determinate conclusions on the alcohol question. What can be more deplorable than the fact that the medical profession is divided into two distinct schools on this subject—the one represented by Dr. Carpenter, the other by Dr. Todd, Dr. Chambers, &c.? By one school alcoholic drinks are regarded as *food*, by the other as *poison*; by one as a regular, daily, and useful, if not necessary, part of man's sustenance; by the other as powerful medicinal or poisonous agents, only useful, like those of the apothecary, under certain rare and peculiar circumstances. One school would place them in the same category as salt, sugar, butter, and tea, as articles of ordinary domestic consumption; the other would range them on shelves, in company with laudanum, sal volatile, and chloroform. These facts prove that a deeply-rooted fundamental creed as to the action of alcohol upon the human tissues lies at the bottom of, and gives its peculiar tinge or complexion to, each of these schools; and until this action of alcohol upon the tissues and vital functions is finally settled and agreed upon, it is impossible that the teaching of men of science and the practice of the public can be, as in the case of meat and bread, unanimous and satisfactory.

It is extremely difficult to determine, with accuracy and precision, the mode in which any agent affects the bodily tissues and functions, but experience and experiment, induction and deduction, chemistry and physiology, enable us, in many cases, to arrive at the truth, or an approximation to it; and, consequently, there is at the present day a tolerably constant and unanimous belief respecting the *modus operandi* of a considerable number of dietetical and medicinal agents, and it is much to be lamented that two totally opposite and contradictory beliefs should exist on a subject of such vital importance to the public as that of the action of alcoholic liquors upon the human body. I do not pretend to be able to settle this great and difficult question, but I shall endeavour, by quotations from high authorities, as well as by observations and reasonings of my own, to exhibit fully and clearly its present state, and thus to render its solution easier and less distant.

Alcohol appears to seek out and fix upon *nervous* matter, and to act directly and specially upon it, just as other agents localize themselves in particular organs. Dr. Todd regards alcohol as a *food*—Dr. Carpenter as a *poison*—to nervous matter; both, however, agree that it acts upon the nerve-cell and fibre *directly*, and upon the encephalon almost to the exclusion of the spinal cord. "So far as it influences the nervous system," says Dr. Todd, "the action of alcohol is that of a *stimulant*—an unfortunate term, indicating a distinction without a difference; other forms of food are likewise stimulant, but as they do not act directly and quickly upon the nervous system, their exciting properties are not so apparent. In like manner, alcohol possesses its stimulating property, because it is a form of aliment appropriate to the *direct nourishment* of the nervous system, and to its preservation; its special adaptation to this system gives it an immediate exciting power superior to any other kind of food." He further says, that alcohol, even when taken in excess, does not produce inflammation of any organ, but that its bad effects are shown in the nervous system; it damages the nutrition of the nervous matter, poisons the nerve-fibre and nerve-cell, and produces anæmia of the brain. Waste of nervous matter is indicated by tremblings and impaired mental power, and these symptoms may be caused by mental anxiety, fatigue, or sexual excesses, with or without the use of alcohol. Todd contends that the moderate and proper use of alcohol repairs and invigorates the nervous system; in short, he regards it as "*its appropriate pabulum*," or food; if given beyond what is required in the treatment of disease, he says it will be exhaled and perceptible in the breath; not so if the quantity be proportioned to the wants of the system. Dr. Marcet, in a book, entitled "Chronic Alcoholism," has very well described the effects of the habitual and *excessive* use of alcohol. The symptoms, he says, may appear during the indulgence, or long after the discontinuance of the bad habit, and are these: Headache, vertigo, unsteady gait, tremors, muscæ volitantes, ringing in the ears, deficiency of what the French call "*aplomb*," nervousness, sleeplessness, nightmares, frightful dreams, weakness in the loins, hips, and knees, inability for exercise, and weakness of intellect and memory. The same or similar symptoms may arise from other causes besides alcohol; such as mental anxiety, excessive intellectual

toil, sexual excesses, inordinate smoking, &c., all which, in common with alcoholic excesses, exhaust or *waste* the nervous matter. Dr. Todd, as I said before, regards alcohol as the proper pabulum of the nervous, in the same sense as albumen is the appropriate pabulum of the muscular, tissue. Carpenter, on the other hand, endeavours to show that alcohol is essentially *destructive*, and not *constructive*, of nervous matter; he contends that it only stimulates the brain and nerves as the spur does the horse, and that this stimulation wastes and destroys it, so that in the end, and on the whole, it will be in a worse condition than before, and will require time and repose in order that it may be fed and repaired by blood containing what he considers to be its appropriate pabulum—viz., phosphorized fats, albumen, &c. If every act of the mind, every thought and emotion, wears away some portion of nervous matter, just as every muscular contraction destroys a particle of muscular fibre, it is evident this must, in both cases, be restored in *some* way. Now Carpenter contends that alcohol cannot, and does not, restore nervous matter, but that it only stimulates the wasted and jaded brain and nerves to further efforts—that is, in fact, it acts upon them as the whip o spur does upon the jaded horse, making them work at the expense of still further wear and tear; so that alcohol, on this view, is a sort of suicidal instrument to the nervous system, goading it on to its own destruction! What, then, can and does repair nervous waste? Dr. Todd would answer, "Above all things, *alcohol*." Dr. Carpenter would reply, "Certainly *not alcohol*, but rest, sleep, and a blood containing the proper pabulum of nervous matter—fats, albumen, &c." No doubt there are many agents which all the world admits *do* repair nervous waste; such are tea, coffee, fresh air, recreations, sleep, and good food, about which there exists no sort of doubt or question; but good reasons ought to be given for excluding alcohol from the category. Now, of tea, coffee, exercise, study, sleep, &c., we may affirm, that used within certain limits, they stimulate, strengthen, nourish, and repair the nervous tissue; and that beyond those limits, they weaken, depress, and waste it. May this not be asserted, also, of alcohol? Dr. Carpenter argues that alcohol cannot ultimately benefit nervous matter, because it is incapable of regenerating it—i. e., of becoming its material pabulum, or food; but no one questions the benefit of tea, coffee, moderate study, sleep, and recreations; and yet we have no reason to suppose that they, *per se* and directly, contribute the most minute particle of matter to the brain and nerves.

In studying the physiological action of alcohol upon the human body, we must never forget that it is one of that large class of agents whose influence varies, not simply in amount, but in kind or quality, according to the quantity administered; so that the effects of a large dose will be, not a mere *multiple* of those of a small one, but of a totally different character. In some few cases, as those of lying or stealing for instance, quantitative difference does not produce qualitative difference; but in the majority of cases it does. A certain temperature produces ice—a higher one, steam; a certain weight bends a spring—a heavier one breaks it; a short mountain walk invigorates the body—a long one weakens it; a few hours' study may *invervate* the brain—a few hours' more will *enervate* it. And may not, also, a certain amount of alcohol, tea, coffee, &c., strengthen the nervous system, and a larger one weaken it? Or is alcohol mischievous in *all* proportions, whilst tea, coffee, study, &c., are not so? Cause must be shown why alcohol is to be excluded from the class of agents which do good in moderation, and harm in excess.

Is alcohol a *food* or a *poison*? This question is still an open one; the end and aim of all food is *force:* food is finally converted into force, which may be regarded as its true definition, and almost as its equivalent, convertible, and equipollent term. In this sense, alcohol, tea, coffee, study, exercise, oxygen, may all be regarded as food, for they all give force, although they probably do not, directly and *per se*, furnish any material pabulum to the brain and nerves. Alcohol, however, *may* possibly do so, (as we shall see in another place,) and may, therefore, be regarded as a more real food than the others. Moderate exercise of mind and body is a generator of force, and the indirect means of imparting growth and strength to the brain and muscles. But alcohol is more really and strictly a food than any such agent as exercise; for all material food is either plastic (tissue-making) or respiratory (heat-making), and alcohol is a most excellent respiratory or calorific food, for it is far more digestible, and far quicker in its action than starch, fats, and sugar, and is at once absorbed by the vessels on the walls of the stomach; consequently, where time is an object, as in cases of fainting, or of collapse from accidents, alcohol possesses a manifest advantage over the more solid and slowly-acting hydro-carbons. Even Carpenter admits the rapidity of its action; but he objects to its employment except in cases of emergency. He says, "Alcohol is the quickest in its action of all the hydro-carbons, but others would be equally and more permanently efficacious, if only time were given them to act. In some exceptional cases this *time* cannot be given, and then alcohol is indicated." He also says, "Alcohol, by presenting itself first for combustion in the lungs, prevents the other carbonaceous matter of the blood (supplied from food and other sources) from being burnt off in the lungs; these, consequently, are thrown upon the skin, liver, and kidneys, which organs are very likely to suffer in the performance of this extra duty." All writers agree with Moleschott, that "wine saves the tissues from being burnt, by offering itself as fuel;" and the most recent experiments of the eminent physiological chemists of Germany have completely established this truth: that alcohol, (in common with tea and some other agents,) by preventing the waste of the tissues is, if not a real and material pabulum, at least an equivalent to it, a diminution of expenditure being, of course, tantamount to an increase of income. It is objected, that alcohol is only a *temporary* stimulus; that the force generated by it is only *temporary*. But this is not a valid objection, since *all* stimulus, *all* force is temporary; food, fresh air, exercise, are all stimuli, or generators of force, but are temporary in their action. Life is only possible under incessant stimulus. Tea and coffee are called "agreeable and refreshing" stimuli; why should the stimulus of alcohol be called noxious? What is there *peculiar* in the alcoholic stimulus that demarcates it from all the others? If a moderate quantity of tea be taken, the effect is agreeable and refreshing; but if taken in excess, the effect is disagreeable and enervating. We may say the same precisely of a mountain walk; neither of these stimuli leaves the body in a worse condition (but, on the contrary, in a better) at the expiration of five or six hours, than it would have been without it. Dr. Chambers applies this test (which seems to me a very fair one) to alcohol, and contends that if an individual finds himself better able to perform all the duties of life during the five or six hours' interval of his meals with than without alcoholic stimulants, then they are *good for him;* at the end of this interval, if alcoholic liquors agree with him, he will feel more cheerful and vigorous than he would have felt if he had not taken them. In the case of poisons, or *alcoholic excesses*, this average interval of five or six hours would be one of misery, and before its expiration the poison or the stimulus would demand imperatively either a remedy or a repetition.

All physiologists agree, that every mental effort wears away a portion of nervous matter, just as every muscular effort destroys and removes a particle of muscular fibre. This being so, the lost matter must, in both cases, be restored by the blood, unless a totally different law obtains in the two structures, which is improbable. Now, we know that the muscular tissue is repaired by the albuminous matters of the food existing in the blood. What part of the food, then, is it which, entering the blood, repairs, restores, or builds up the effete nervous matter? Phosphorus, oils, and fat constitute a large proportion of the nervous structures; and alcohol, being a hydro-carbon, is chemically allied to these components of nerve-cell and fibre. But what is its precise action upon them? Is it a real pabulum? Does it nourish them, directly and materially, and build them up, in the same sense as albumen does the muscular tissue? Or does it merely affect them after the manner of study, or cheerful amusement, without imparting anything to them of a real and substantial character? Or, lastly, does it simply quicken the circulation, and so send a larger amount of blood to the brain and nerves in a given time? These and similar questions have yet to be answered before the subject of alcohol can be well understood.

My own observation and reflection have led me to believe that alcoholic drinks are highly useful, if not necessary, articles of regular, daily consumption, for vast numbers of persons; but that their kind and amount must be determined by age, sex, constitution, mode of life, and other circumstances. I believe they are more necessary for those whose avocations involve head-work, anxiety, and wear and tear of brain, than for such as lead a comparatively animal life, or one of mere bodily labour. And I think it will be found that the degree of *refinement* of the alcoholic liquor required is in tolerably exact ratio to the expenditure of brain-power. The agricultural labourer, for example, is satisfied with ginger-beer, or very poor home-brewed beer; the working classes of London with porter; clerks and shopkeepers with bitter ale; and barristers, judges, and members of Parliament with wine. In fact, we find a gradation of brain-work corresponding pretty exactly to that

of the refinement and alcoholic power of the liquor habitually and instinctively made use of. On the continent, also, we see illustrations of the same fact—the strength and refinement of the wines consumed, gradually rising with the exaltation of the brain work of the consumers. Nor is this owing, as might be supposed, entirely to difference of rank or pecuniary resources; for every man finds the same fact illustrated and corroborated in his own experience. We all find, when on our tours in Switzerland or the Highlands, where we enjoy pure air, good food, and rest and recreation of brain; when, in short, we are living rather an animal than an intellectual life, we care nothing for, and do not require any sort of, alcoholic liquor; whereas, when engaged in our professions or business in London, in the midst of bad air, noise, hurry, bustle, competition, and excitement, we are conscious of an unmistakable craving for a certain amount of alcohol with our daily food; the reason being that, in the one case, we are doing everything to refresh and fortify, and in the other to exhaust and wear out, the nervous system. This fact goes far to prove that alcohol, in some peculiar but as yet unexplained way, *does* repair nervous tissue.

In estimating the value of alcohol, the experience and testimony of healthy persons who use it habitually, and in moderation, ought to be taken into account; also the fact that in all ages, and in every corner of the globe, man has discovered a method of preparing it. There are persons who do very well without alcohol; but this is no proof that it is useless to others. There are country districts where the labourers are healthy and strong without meat, and with beer almost as weak as water; but does it follow that the same fare would suit the London lawyer, barrister, judge, or member of Parliament? No, the two cases are totally different. Men whose labour resembles that of horses may and do live, like horses, upon corn and water; but those who are calculating, thinking, and reasoning twelve hours out of the twenty-four, require a more refined sort of food and drink. A ploughboy will look fat and rosy upon his bread and cabbage and hard pudding and water; whilst a Gladstone will require, besides these, good animal food, tea, coffee, and an alcoholic liquor of great purity and refinement. If the brain-work of the London clerk demands a supply of Bass's ale, that of the working statesman will require something approaching œnanthic æther!

Two arguments used by total abstainers require a short notice. They maintain that alcoholic liquors cannot afford any real and permanent benefit, because they contain little or nothing of a *solid* nature (as proved by evaporation to dryness). But if this proves the worthlessness of wine, so does it of tea and coffee! The fact is, experience has proved that all these agents, in spite of their unsubstantial nature, do refresh the wearied brain and nerves, and impart new life and health and spirits. Exercise, fresh air, recreations, study, tea, coffee, and cigar smoke, are all devoid of solidity; but the argument that they are *therefore* incapable of imparting anything to the human body is still more so. On the contrary, we know that exercise does add bulk and weight and substance to the muscles; that fresh air does redden and enrich the blood; that recreation and study do nourish the brain and nerves; that tea and coffee and alcohol do, at any rate, prevent waste of the tissues (and probably also directly nourish the nervous system); and that moderate smoking, by soothing and calming the over-busy and excited brain, prevents its exhaustion and waste; in short, some of the least material agents have the most real, powerful, and beneficial influence upon the human body. Again, teetotalers contend that, in the case of alcohol, it is impossible to define moderation and excess, since what is moderation to one man is excess to another, and *vice versâ*; but this is equally true of salt, sugar, tea, coffee, and many other things, moderation and excess in which they regard as tolerably well defined by common consent. The truth is, there is a certain recognised standard quantity of alcohol, salt, sugar, tea, coffee, &c., which all men agree to call *moderate*, and the difficulty is not greater in the case of alcohol than of any other article of daily consumption. The man who eats a leg of mutton at a meal, or consumes a pound of salt, or drinks a gallon of beer per diem, is looked upon by the public as a monstrosity, an exception, a wonder! whilst he whose daily consumption is one sixteenth of these several articles is regarded as an ordinary individual—a type of the masses; in short, the excessive and the moderate man are as well known and as easily recognised as are any of the types and their deviations in the animal and vegetable world. It is idle and absurd to pretend that the boundary line between moderation and excess is indefinable. I believe every man knows where it is, and when he has overstepped it, even although, from long habit and blunted sensibility, the transgression may have little effect upon him. The soldier's rations and the diet-lists of our great hospitals, are so many proofs that *there is a standard* in these matters, well understood, and that public institutions, in their dietetical arrangements, do not contemplate or provide for monsters who eat a leg of mutton and drink three gallons of beer per diem!

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo nascendi via, nisi quam plurimas et morbarum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

GUY'S HOSPITAL.

ANEURISM OF THE RIGHT POPLITEAL ARTERY; COMPRESSION; LIGATURE OF THE FEMORAL ARTERY; CURE.

(Under the care of Mr. BIRKETT.)

IT will be observed that in nearly all the cases of aneurism of which we this week commence a series of reports, compression was employed for longer or shorter periods, according to the powers of endurance and disposition of the patient to bear it. In those cases in which this mode of treatment had failed, ligature of the vessel above was resorted to. In neither of these cases does the treatment by forcible flexion of the knee-joint, recommended by Mr. Ernest Hart, seem to have been employed, although that method has obtained recently a fresh cure in the provinces, in the practice of Mr. Pritchard, of Bristol. The reflection that compression, which is so successful in the hands of our brethrenin the Irish capital, should prove the reverse in English practice is by no means agreeable. In most of the instances in which it was used the patients complained of the pain which they suffered, and the length of time necessary to effect a cure. Amongst the objections which have been brought forward by writers against compression, the pain and the tediousness of the cure are the most important. In relation to these Mr. Erichsen observes,* that to such objections it may with justice be answered that the pain attendant on the employment of compression depends very greatly upon the skill and care with which the apparatus is applied and managed throughout, as well as upon the kind of instrument used, being certainly much diminished when Carte's elastic instrument is employed. He further shows that in point of time the cure is about the same, whether from the ligature or compression. It cannot be denied that some patients bear the latter better than others, and that consolidation of the sac sometimes takes place without inconvenience, and that at a very early period: such instances have been recorded in our "Mirror." The compression was borne tolerably well for a short time in Mr. Adams's patient at the London Hospital (a man sixty-seven years of age, with an arcus senilis, and evidently the subject of atheromatous disease of the bloodvessels), and no doubt mainly assisted in the cure.

Professor Pirrie, who has taken the greatest interest in the subject of the compression treatment in aneurism, and who purposely visited Dublin to satisfy himself by personal observation of the advantage of "the bloodless cure of aneurism," says, in his "Principles of Surgery:"—"The result to my mind was, the firm belief that the treatment by compression is a *safe*, simple, successful, and *almost painless* mode of curing aneurism."

The great success which the Dublin surgeons have met with in this mode of treatment, accomplished too without the suffering of much pain, would show that there is something in the minutiæ of the application of the compressing force which is not as yet quite understood here. Either the pressure on the arterial trunk is too great, and hence the inability of the patient to bear it; or else the apparatus is too complicated for the due regulation of pressure in accordance with the feelings of the patient.

* Science and Art of Surgery. Third edition.

Statistics have proved that the risk to the patient from the use of the ligature is greater than that from compression; and we should have been glad to have given a greater number of cures from the latter than those we now record.

The notes of the following case were taken by Mr. Henry Hutchins.

E. C——, aged forty-two, was admitted into the above hospital on June 13th, 1860. He was a healthy-looking, moderately-muscular man, had enjoyed good health, and was actively employed in Chatham-dockyard. About twenty-one days before admission, his right knee-joint felt stiff, and movement caused pain. At this time he felt a swelling in the popliteal space, which "throbbed." He stated that he was of temperate habits, had lived comparatively well, and had pursued his ordinary work until within a few days of admission. During work he had felt some pain in the back of the knee, extending down the leg and foot. Since the first observation of the swelling it had gradually enlarged, and the pain had become more and more severe. The diagnostication of the nature of the disease was very easy. The sac was large, filling the whole of the popliteal space. Pressure on the femoral artery perfectly arrested the pulsation through the sac and caused it to become partially empty. In this state there seemed to be a considerable mass of solid material, doubtless fibrine, forming the walls of an aneurism; and under these circumstances Mr. Birkett thought that it was a favourable case for the application of pressure on the trunk of the femoral artery. After rest in the recumbent posture for a few days, with attention to his general health, pressure was commenced and maintained by means of a weight and the clamp for a week. This treatment he endured very well for a few days. He then became very irritable, intolerant of the pressure, and suffered from pyrexia. The leg became slightly œdematous and hot. The nights were passed without sleep, his appetite failed, and no beneficial influence had resulted to the tumour by the means employed. The febrile symptoms having been arrested by the administration of the usual remedies, on the 22nd of June (after pressure for seven days), Mr. Birkett applied a ligature around the femoral artery at the usual place. After all pulsation had ceased, a tumour of considerable size remained, but not larger or more solid than when the man was admitted. This observation seemed to show that no appreciable amount of fibrine had formed in the sac, as the result of the pressure which had been applied. The temperature of the limb was preserved by covering it with cotton-wool. He was put under the anæsthetic influence of chloroform during the operation, which produced no embarrassing after-consequences. The edges of the wound were brought together and maintained *in situ* with plaster. The ligature was brought out at the inferior extremity of the wound. In the evening the temperature of the surface of the leg was low. Being rather restless, he took forty minims of tincture of opium.

June 23rd, 1860.—He passed a comfortable night. The leg is warm; but he complains of a sensation of pricking in it.

He never manifested an untoward symptom after the application of the ligature, which was removed at the dressing of the wound on the nineteenth day. The sac slowly diminished, becoming harder and harder and more circumscribed. In the knot of the ligature a perfect circle of the outer coat of the artery was enclosed. This was demonstrated somewhat accidentally, in consequence of observing some tissue adherent to the silk, which, when floated in water and unravelled, proved to be as above described.

The patient left the hospital on the 3rd of August, quite well in health, although the wound was not completely closed. It was quite healed three weeks afterwards.

Oct. 26th.—Tumour no longer perceptible; health very good; limb rather weak.

ANEURISM OF LEFT POPLITEAL ARTERY; PRESSURE ON FEMORAL; LIGATURE; CURE.

(Under the care of Mr. BIRKETT.)

R. C——, aged thirty-nine, was admitted September 21st, 1860. He was engaged as a shipwright in Chatham dockyard, and was a strong, muscular man, apparently in robust health. Has been temperate, and has lived well. He stated that three months since a plank of wood struck him on the outside of the left knee-joint. The force of the blow was sufficient to knock him down, but he resumed work soon afterwards on the same day, and continued at it until September 17th. Two months since he felt aching and pain, "like rheumatism," behind the knee, which extended thence downwards and forwards in front of the tibia. He felt a lump in the popliteal space a month ago.

The existence of an aneurism of the popliteal artery was easily diagnosticated. By arresting the stream of blood, the sac could be emptied completely, it was thought, for scarcely more than a slight fulness in the region then remained. The pulsation throughout the tumour was very strong, and the whole popliteal space was filled by it.

After rest and constitutional treatment with tonics, and a light, nourishing diet, pressure was commenced with a clamp and weight applied over the femoral artery in the upper third of its course. It required a heavy weight and strong pressure even to control the flow of arterial blood; to arrest it, much more than the patient could endure for any length of time. It should be here stated that this man enjoyed more than the usual intelligence of people of his class; that his mechanical tastes enabled him to comprehend the *rationale* of the means employed, and that he readily seconded the efforts of the surgeon by every means in his power. He calmly persevered in maintaining a certain amount of pressure for a few days; but he at last became restless, partly from loss of sleep and the constraint of his posture. An irritability of the sartorius muscle, too, seemed to be induced, which prevented the apparatus from effecting its object. The site also at which pressure was made became very sore and painful. No change had occurred in the sac. At last, on the tenth day after the employment of pressure, he would endure it no longer, and, having heard of the case before related, he urged Mr. Birkett to apply a ligature on the artery.

This operation was performed on October 9th at the usual place, and when the man was under chloroform. The artery was small and its tunics thin. The edges of the wound were adjusted by means of plaster, and the ligature brought out at the centre of the wound. The sac contracted into a small compass. The patient never experienced the slightest untoward result, and the ligature came away on the twenty-fourth day after its application. The wound immediately healed, and the man left the hospital on the 9th November, 1860. In the knot of the ligature, likewise in this case, was a circle of the coats of the artery. At the time the patient left the hospital, scarcely a trace of the sac remained.

ST. MARY'S HOSPITAL.

ANEURISM OF THE POPLITEAL; TREATMENT FIRST BY COMPRESSION, SUBSEQUENTLY BY LIGATURE OF THE FEMORAL ARTERY; RECOVERY.

(Under the care of Mr. URE.)

RICHARD D——, aged thirty-two, stonemason, a stout Cornishman, was admitted into the Blomfield ward October 28th, 1859, complaining of a painful tumour in his left ham. He stated that he had always enjoyed good health, and that his habits were temperate. He was quite well up to three months before admission, when he was troubled with a slight pain in the calf of the left leg; this gradually increased, and a month later he noticed a swelling in the left ham about the size of a marble. The leg and foot then became swollen, and he gave up work for a short time; but as these symptoms appeared to be subsiding, he resumed his work for a fortnight, when the pain returned; and, the tumour in the ham having attained a considerable size, he consulted a medical man, who advised him to come up to town at once, which he accordingly did.

Upon examination, a pulsating tumour, of the size of a turkey's egg, was found in the popliteal space of the left leg, the beating being synchronous with the action of the heart. On applying firm pressure over the femoral artery the pulsation ceased. On placing the stethoscope over the tumour, a bellows murmur (*bruit de soufflet*) was distinctly audible; and a similar murmur, though very slight, was heard when listening to the heart.

Oct. 30th.—Mr. Ure having determined to treat the case by compression, this was commenced to-day. A double compress, well padded, was applied along the middle third of the course of the femoral artery, so as to diminish the current of blood through the aneurismal sac. The general health is good.

Nov. 1st.—Complains of numbness in the leg, with severe pain in the region of the tumour.

5th.—Still complains of pain, though it is not so severe; he is very restless at night; can stretch his leg more freely than before. Thickening of the walls of the sac is apparently going on, with diminished impulse.

8th.—He is very restless and uneasy. As he could not bear

the double compress well, he has been supplied with two instruments, with which pressure is made in the groin and in the middle of the thigh alternately. Appetite good; bowels costive; pulse natural.

18th.—Impatient and irritable; functions disturbed; looks pale and anxious; numbness in leg and foot; pulsations in the tumour weaker, and deposit going on.

26th.—Although the deposit seems to have become pretty thick and firm on the depending portion of the tumour, yet, on removing the tourniquet, the impetus of the current of blood is felt very strongly, especially laterally, where the walls are thin and bulging. There appears to be a little effusion into the knee-joint, and the œdematous condition of the limb is increased. The patient is very irritable and impatient, and it is pretty evident that, for the last few days at least, he has been in the habit of loosening the tourniquet almost directly after it has been applied; taking these facts into consideration, it was agreed, at a consultation to-day, that ligature of the artery under the circumstances was advisable.

27th.—Quarter to two P.M.: The patient being placed under the influence of chloroform, Mr. Ure proceeded to tie the artery in the usual manner. With a small scalpel he made a linear incision of about three inches and a half in length, commencing about two inches and a half below the middle of Poupart's ligament, cutting in the axis of the limb, and keeping to the inner side of the sartorius muscle. Having made the incision through the skin and superficial fascia, he then divided the fascia lata on a director to nearly the same extent, exposing the femoral sheath; a portion of this was taken up with a pair of forceps and divided for about three-eighths of an inch so as to admit the aneurism needle, which was then carried round the artery from the inner to the outer side, and the vessel firmly secured. The edges of the wound were now brought together with strips of plaster, the whole limb enveloped in a flannel roller, and the patient put to bed.—Five P.M.: Is very comfortable; has very little pain down the leg; pulse 100, full.

28th.—Eleven A.M.: Has had a pretty good night, and complains only of an occasional jumping pain in the thigh; there is a little oozing from the wound; no perceptible difference in the temperature of the two limbs.

Dec. 1st.—Wound has healed by first intention; there is a slight exudation of healthy-looking pus from the point where the ligature emerges; no pain.

10th.—The tumour is smaller and softer, and quite free from pain; there is still a little discharge from the neighbourhood of the ligature, which appears firm.

13th (seventeenth day).—Ligature came away this morning.

19th.—No sensation in the toes; faint but distinct on the dorsum of the foot. Limb to be encased in cotton-wool.

Jan. 7th.—He gets about very well with the aid of crutches, and is able to put his foot to the ground. The sensation in the toes is gradually increasing.

22nd.—Left the hospital cured. The tumour in the ham is quite firm and hard, and the collateral circulation fully established. His health is first-rate.

It may be remarked that the numbness of the leg, which was somewhat troublesome during his recovery, was attributed by Mr. Ure to the pressure of the over-distended neurilemal vessels of the sciatic nerve, which were necessarily increased in size during the establishment of the collateral circulation.

LONDON HOSPITAL.

ANEURISM OF THE POPLITEAL ARTERY IN AN OLD MAN WITH AN ARCUS SENILIS; TREATMENT BY COMPRESSION; CURE.

(Under the care of Mr. ADAMS.)

THE notes of the following case were taken by Mr. D. H. Dyte:—

Wm. G——, aged sixty-seven, by occupation a storekeeper, was admitted on December 21st, 1860. This patient, a tall and thin man, of florid complexion, in whom the "arcus senilis" was well marked, stated that he had always enjoyed good health; but that ten days previous to admission, whilst walking, he suddenly felt a severe pain in his left ham, which was followed by numbness, extending down the leg of the same side. Thinking he had sprained his knee, he applied warm fomentations, soap liniment, &c.; but at the end of three days, not finding any relief from this treatment, and noticing a swelling at the seat of pain, which began to increase in size, he consulted his medical attendant, who informed him of the serious nature of his disease, and recommended his immediate removal to the hospital.

Dec. 21st.—On admission, the symptoms above described were complained of, and there was found upon examination a violently pulsating tumour, of the size of a small orange, occupying the lower part of the popliteal space. This tumour could be rendered empty and flaccid by pressure upon the femoral artery, and upon removal of the pressure it would rapidly refill, and pulsate as before. The patient was closely questioned, but he emphatically stated that he had never received any injury at the part, and that he had not felt any pain nor inconvenience, nor had he observed any swelling, before ten days prior to admission. He was placed on full diet, and ordered to remain perfectly at rest.

28th.—The tumour had not increased; the pain and numbness continued as before. A bladder containing snow, which was afterwards exchanged for ice, was applied to the tumour, and an attempt was made to effect pressure upon the femoral artery against the pubis by means of a weight. This was found to be ineffectual on account of the man's restlessness, and was consequently abandoned.

Jan 1st, 1861.—The patient still complains of numbness in the leg; but the pain is not so great as hitherto. After some considerable trouble, a Signoroni's tourniquet was applied to the artery, about an inch below Poupart's ligament, and perfect control over the aneurism was thus obtained. The instrument could not be applied at any other part of the thigh, as the man would not bear the pain caused by it. The application of the ice was now discontinued.

8th.—The pain and numbness not so much to-day. The tumour has very slightly decreased in size.

15th.—The tumour has become somewhat harder and firmer, is rather smaller than hitherto, and pulsates less violently. The artery above the point of pressure is a little enlarged, and has assumed the appearance and character of a small fusiform aneurism.

22nd.—About this time the patient suffered from a severe attack of catarrh and bronchitis, for which suitable remedies were administered, and the application of the tourniquet was ordered to be discontinued.

31st.—On the re-application of the tourniquet, the aneurism was found to have attained its original size. In the course of a few days, however, it had again diminished.

Feb. 11th.—The tumour is gradually becoming smaller and harder, the pulsation less distinct, and on some days could not be felt at all. The patient feels quite well, and does not complain of any pain.

26th.—The tumour is now the size of a large walnut, is hard and firm, and scarcely any pulsation can be felt in it. There is a small artery (sural?) running across it, which pulsates distinctly.

March 26th.—The aneurism has not diminished in size; but is much harder and firmer than hitherto. Not the slightest pulsation has been felt in it for the last fortnight. The patient, however, has complained of great pain and numbness in the ham, and down the leg, the superficial veins of which are much distended. Strapping and bandaging was ordered; but this, having irritated the skin, was discontinued, and an elastic cotton bandage was applied instead. He experienced great relief from it; and is able to sit up, and walk about the ward with the aid of a stick.

April 12th.—The patient does not complain of any pain or numbness, and walks about without inconvenience. The tumour continues to diminish in size, and is very hard and firm.

19th.—He is now quite convalescent, the tumour being about as large as a walnut and not causing any inconvenience. There being no reason for the patient remaining in the hospital, he was discharged, cured.

The man's heart had been examined, but no sign of disease could be detected.

ST. THOMAS'S HOSPITAL.

ANEURISM OF THE FEMORAL ARTERY; COMPRESSION; LIGATURE OF THE VESSEL; SECONDARY HÆMORRHAGE; LIGATURE OF THE EXTERNAL ILIAC ARTERY; FATAL RESULT.

(Under the care of Mr. SOLLY and Mr. SYDNEY JONES.)

E. C——, a groom, aged thirty-three, was admitted into Abraham ward, under the care of Mr. Solly, Nov. 14th, 1860. He was a very robust, healthy-looking man, and said he was

of temperate habits. About nine months before admission, when getting quickly out of bed one morning, he felt a sudden cramp in his thigh; and very soon after this he found a small tumour, about the size of a hazel nut, on the left thigh, midway between the knee and the hip. In his own mind he associated the "lump" and the cramp he had experienced. The tumour continued to enlarge, at first without pain, but latterly it had become tender to the touch.

On admission, it was found that he had an aneurism of the femoral artery in the middle of the thigh, measuring five inches in vertical diameter and three inches in the transverse. Pulsation and loud bruit existed. The sac could not be entirely emptied, and pressure upon the femoral above the tumour controlled the circulation through it for a time; but after a few minutes it began to fill and pulsate again. In some parts there was considerable tenderness to touch, but no redness of the integument.

Nov. 16th.—Pressure by horse-shoe tourniquet was applied, and one drachm of tincture of digitalis was given three times a day and an opiate at bedtime. He became very irritable under the pressure, which he said caused him much pain, so that on the 20th the pressure was remitted. The tumour was then harder and smaller, and he was persuaded to try the pressure for a little longer. On the 21st it was recommenced, and he took twenty minims of tincture of sesquichloride of iron three times in the day. He still suffered greatly from the pressure, although every endeavour was made to mitigate his suffering by changing the position of the tourniquet, and on the 27th it was finally given up, the tumour being still harder and smaller.

On the 28th, chloroform was given, and the femoral artery, above the origin of the profunda, was ligatured by Mr. Jones.

29th.—He was not sick from the chloroform, and had a fair night after an opiate. The tumour is now hard, and there is no pulsation; the leg is warm; the wound looks well. His countenance is cheerful; pulse quiet; skin cool.

30th.—Going on well. No pulsation in the aneurism; no constitutional disturbance; the wound looks healthy.

On Dec. 2nd, there was a slight return of pulsation in the aneurism, which was hard and small. He continued going on satisfactorily till the 9th, when the ligature came away spontaneously, and at nine P.M. there was slight hæmorrhage (about a teaspoonful); it recurred also at three o'clock the following morning; and there could be no doubt that, although so small in quantity, it was arterial.

On the 11th, the hæmorrhage recurred several times in large quantities, and the external iliac artery was ligatured by Mr. Jones, by which the bleeding was arrested. He was very much weakened by the loss of blood, and had a troublesome cough, for which the conium and ipecacuanha pills were ordered. He took a liberal diet, and four ounces of wine daily.

On the 17th the bleeding again commenced from the old wound; it was repeated several times in small quantities. Suppuration also occurred in the sac of the aneurism, and poultices were applied. His general health kept remarkably good, and he slept and took his food fairly.

24th.—Ordered half a drachm of the tincture of sesquichloride of iron three times a day.

26th.—The sac of the aneurism was laid open and pus let out. He was now much emaciated, and generally worse.

On December 30th and two following days hæmorrhage took place several times from the old wound; it was arrested by pressure and ice. There was free discharge from the aneurismal sac; his cough was troublesome, and his condition hopeless.

Jan. 2nd, 1861.—There was hæmorrhage from the wound (made in ligaturing the femoral), and it was then laid open, a clot turned out, the course of the femoral laid bare as high as Poupart's ligament, and all bleeding points tied. The operation was attended with the loss of a considerable quantity of blood, and the patient was very collapsed afterwards.

4th.—Slightly rallied; no return of bleeding. He takes ten ounces of wine and liberal diet.

On the 5th the hæmorrhage again came on, and it continued more or less until he died from exhaustion on the 14th of the month. No post-mortem examination was permitted.

CHARING-CROSS HOSPITAL.

ANEURISM OF THE FEMORAL ARTERY; LIGATURE OF THE TRUNK ABOVE IT; FATAL RESULT.

(Under the care of Mr. CANTON.)

FOR the notes of the following case we are indebted to Mr. Travers, house-surgeon to the hospital.

John S——, aged twenty-nine, carpenter, residing in London, of pale, strumous aspect; has always enjoyed good health; for the past two years his employment has compelled him to be constantly on his feet, with a great deal of quick walking; habits invariably temperate. About a month since he first noticed a swelling on his thigh, and although it did not cause him any inconvenience beyond some slight pain, he applied for relief at this hospital a fortnight ago. An aneurism of the femoral artery was diagnosed, and he was admitted. The tumour was found to be about three inches and a half in length, and two inches in breadth, situated at the lower and inner part of the thigh, and extending beneath the tendon of the adductor magnus muscle into the popliteal region. It pulsated synchronously with the pulse. The pulsation was stopped on pressure being made on the artery above, and increased when the pressure was applied to the vessel below the tumour. A distinct bruit was heard on applying the stethoscope over its site at each pulsation. The patient, since confined to his bed, has not complained of pain or annoyance from its presence. He cannot in any way account for its origin, and says it has not increased in size since he first perceived it. The thigh of the affected side, above the swelling, is considerably less in circumference than its fellow. An examination of the heart and large arteries having been made, without anything abnormal being detected, on the 3rd of November Mr. Canton tied the femoral artery at the inferior part of Scarpa's space. The pulsation in the tumour immediately ceased. The patient was placed in bed, and the leg enveloped in cotton wool. When visited in the evening, he expressed himself free from pain. The temperature of the affected limb was lower than that of the other.

Nov. 4th.—Has passed a good night, and appears quite comfortable; temperature much higher than last evening, though not yet normal.

5th (morning).—Temperature much increased, considerably higher than in the opposite limb.

6th.—Temperature lower than yesterday, but little more than natural; very comfortable; no annoyance.

7th.—He was seen early this morning. He had passed a rather restless night; had an attack of vomiting; looked pale and anxious; pulse quick and thready; bowels costive. Mr. Travers, the house surgeon, removed the stitches and piece of sponge. Ordered two calomel-and-colocynth pills at once, a magnesia draught four hours after, and bark and ammonia three times in the day. This treatment appeared to relieve the patient much, and in the evening he was better.

8th.—Still improving; bowels moved once; wound looks much better; temperature normal.

9th.—Not so well this morning; there has been some slight hæmorrhage during the night. An extra pad was put over the wound, and the bandage tightened. As the tongue looked brown and the patient appeared to have some slight pyrexia, a saline mixture with small doses of antimony were ordered. In the evening he was much better; no fresh hæmorrhage had occurred.

10th.—The patient has passed a very comfortable night, and seems better this morning. Towards the after part of the day he became worse, appearing altogether exhausted, and the pulse becoming weak. Brandy-and-egg was afterwards given, and also ammonia and sulphuric ether.

11th.—Has slept pretty well; pulse much fuller; altogether not so low; heat of skin somewhat intense; bowels rather costive; no fresh hæmorrhage. Ordered the stimulants and nourishment to be carefully continued.

12th.—Early this morning there was some more venous oozing. He had slept pretty well, but complained of pain in the left leg, which is œdematous, together with the ankle. Linseed poultices were ordered to be applied to the leg, and the stimulants and nourishment to be continued. To increase the patient's comfort, the leg was flexed, the knee being raised by means of pillows.

13th.—Appears better this morning; has passed a comfortable night and taken the nourishment; leg still swollen and painful, though less so than yesterday.

14th.—Much the same this morning; pain in the leg rather less, but complains now of great pain and tenderness in the right elbow and shoulder; these parts are somewhat swollen. Ordered to increase the stimulants and continue the medicine and nourishment. In the evening he was much worse, being low and exhausted, with a small and quick pulse, and a dry and brown tongue. Opiates were given.

15th.—Tongue not so dry; pulse better; has passed a very restless night, with frequent delirium. In the evening he was worse again, having had another attack of vomiting, and re-

taining nothing in his stomach. Ordered an effervescing mixture, with hydrocyanic acid and small doses of opium; still continuing the brandy.

16th.—The patient passed a restless night. The vomiting ceased after taking the medicine; he, however, became gradually more exhausted, and sank at six A.M.

No post-mortem examination was allowed.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

TUESDAY, MAY 14TH, 1861.

DR. BABINGTON, PRESIDENT, IN THE CHAIR.

IMMEDIATELY after the reading of the minutes and their confirmation, Dr. O'CONNOR entered the room, and, addressing the President, said that he was anxious to enter his protest against the confirmation of the minutes. Having been informed by the President that he was too late to offer any observations upon the subject, Dr. O'Connor said that he regretted this, inasmuch as he wished to bring before the Society a very serious breach of etiquette upon the part of a gentleman whose paper had been read at the last meeting of the Society. That gentleman had advertised his article in the daily papers, and used the name of the Society in a most unwarrantable manner. Dr. O'Connor, however, was prevented by the rules of the Society from entering into particulars.

RESEARCHES ON ASPHYXIA;

WITH OBSERVATIONS ON THE EFFECTS PRODUCED BY THE HOT BATH IN ASPHYXIATED ANIMALS, AND ITS USE IN RESTORING SUSPENDED ANIMATION.

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(*Communicated by* DR. SHARPEY.)

AMONGST the numerous researches which had been made with reference to asphyxia, the author was not aware that any had been directed to one of the subjects he had investigated. Physiologists are agreed as to the order in which the arrest of the vital actions takes place in asphyxia, but not as to the duration of the heart's action, nor yet as to the best mode of treatment in suspended animation. The different societies, whose aim is to save life, issue rules of the most opposite character for the restoration of those apparently dead.

Two important points remain to be decided: first, the period after asphyxia has commenced during which treatment is likely to be successful in restoring animation; and, secondly, the value of the hot bath as a remedial agent.

Experiments had been instituted by the author with reference to the following questions:—

1. How long does the heart continue to beat in asphyxia?

2. What are the effects of the hot bath on an asphyxiated animal—firstly, after all respiratory movements have ceased, and are not re-excited; secondly, when respiration has been re-excited, and is being feebly carried on?

It is difficult to decide with any degree of certainty with regard to the first question. Certain circumstances tend to throw a doubt on the generally received opinion, that "in asphyxia the movements of the heart cease in a few minutes after the cessation of the functions of animal life." The second question is more readily answerable, but the author was not aware that any experiments bearing directly on it had been performed previous to his own.

The subjects of experiments were dogs, cats, and rabbits. They were drowned in water varying in temperature from 40° to 50° Fahr., and in one instance 36°. On being removed from the water, after every external symptom of life had disappeared, they were opened by the removal of the anterior part of the chest, so that the movements of the heart could be observed.

Some of the experiments were parallel—i. e., two animals of the same age and size were chosen, and after being drowned in the same way, were opened at the same time; the difference being that one animal was, previous to being opened, put into the hot bath at 100°, and the other was left exposed to the atmosphere. The number of animals experimented on as just mentioned was 28; of these, two being set aside which were submerged for an hour, in 18 the heart was found beating when first observed; in 8 its action had ceased.

The animals were opened at periods from the commencement of asphyxia varying from the fifth up to the thirteenth, and in one instance the twenty-first minute. The average period during which the ventricles continued to contract was nineteen minutes; the longest period was in a rabbit—forty-five minutes.

With regard to the first portion of the second question, the morbid appearances of the animals put into the hot bath were compared with those of the animals not so treated. In the animals put into the bath, the lungs were much more congested, more full of blood; they were firmer in substance and specifically heavier than those of the animals not so treated. Both sides of the heart were loaded with blood. In some instances the blood was coagulated in the vessels of the lungs, the systemic veins, and the cavities of the heart. The blood was generally less fluid than in the animals not put into the bath, and coagulated more rapidly when removed from the vessels. In no instance did the bath produce a respiratory effort or any movement whatever on the part of the animal; it seemed, further, to shorten the duration of the heart's action.

With regard to the second portion of the second question, experiments of the following character were performed:—

Animals were drowned in water from 45° to 50° Fahr.; they were kept under water, some for one minute, some for one minute and a quarter, and one for two minutes. When removed from the water, they were placed on the table exposed to the air. They soon began to breathe feebly. In order to compare the effects of the hot bath with those where all treatment was omitted, some of the animals were left to themselves, others were put into the bath as soon as respiration had been re-excited.

Thirteen experiments were performed—twelve on rabbits, one on a cat. Of the thirteen, seven were put into the hot bath; of these, six died, at periods varying from two to twenty hours after submersion. Six animals were left to themselves; of these, four recovered, and two died, both between the eighth and twentieth hour after submersion.

The animals which had died after being put into the hot bath presented the following morbid appearances. The lungs were dark-coloured, full of blood, firm, almost liver-like in appearance. In some instances, portions sank in water; the air-tubes were empty; there was blood in all the cavities of the heart, in one instance coagulated. In the animals which died after submersion, but which were not put into the hot bath, the lungs were somewhat firm and congested, but to a less extent than in the others.

The experiments appear to the author to be sufficient to establish the principle of the injurious influence of the hot bath, both when asphyxia is complete and when recovery is commencing. In the former case, the bath momentarily increases the circulation; but respiration being in abeyance, the lungs become loaded with blood, and the left side of the heart distended. In the latter case, respiration being imperfect, engorgement of the lungs takes place, and subsequent arrest of the heart's action.

The following conclusions are drawn by the author from his experiments:—

1. That in asphyxia by submersion, the ventricles of the heart do not, as a rule, cease to contract "in a few minutes after the cessation of the functions of animal life," but that in many instances their action continues for a very considerable period, and that this serves to explain how recovery has taken place after lengthened submersion.

2. That in cases of asphyxia where respiration has altogether stopped, the effects of the hot bath are: to produce an accumulation of blood in the lungs and in the left side of the heart, together with a tendency to coagulate on the part of the blood; that it does not tend to prolong the action of the heart, but rather to paralyse its movements, and diminish the duration of its contractions; that it does not excite respiratory efforts, and prevents artificial respiration being properly carried out.

3. That in cases of asphyxia where respiration has been re-excited and is being feebly carried on, the hot bath, although in some instances it seems to have no immediate bad result, yet has a tendency to produce a fatal issue some hours after its use, by causing extreme congestion of the lungs, together with consolidation and collapse of the pulmonary tissue.

The following practical inferences are drawn from the above conclusions:—

1st. That efforts to restore animation should be made in all cases where asphyxia has not been of very prolonged duration.

2nd. That the prolonged use of the hot bath in asphyxia is not only inefficacious, but dangerous; and that its temporary

use appears to be attended by no direct benefit. So far as any means similar to that of the hot bath are likely to produce respiratory movements, the alternate dashing of hot and cold water on the body is probably the most efficacious.

3rd. That it appears safer practice to omit all artificial treatment, when respiration is going on feebly, than to make use of the hot bath.

4th. That in the treatment of asphyxia all efforts should be primarily directed to restoring, or continuing, the respiratory movements; and all measures tending to load the lungs or embarrass the respiration should be avoided.

The author believes that the best method of performing artificial respiration we are yet acquainted with is that recommended by Dr. Marshall Hall.

Dr. BABINGTON was not sure whether experiments upon dogs respecting warm baths were applicable to human beings. The warm bath would probably be more injurious to asphyxiated dogs from the fact that the skin of the dog was remarkably thick, and it was known that he did not perspire. He (Dr. Babington) did not know whether cats were subject to perspiration.

Dr. WYNN WILLIAMS knew an instance in which a cat, having been accidentally left in an oven, was removed in a state of profuse perspiration.

Dr. BABINGTON remarked that if the experiments of Dr. Waters were correct, and were so proved by further experiments, they were most valuable in relation to the use of the warm bath in the case of asphyxiated persons.

Dr. CHAMBERS said that it had been shown that asphyxia in new-born children was not removed by the use of the warm bath, but that it was decidedly injurious.

Dr. O'CONNOR observed that anything which tended to lower the powers of life in cases of asphyxia must be injurious. He eulogised the plan of treatment recommended by Dr. Marshall Hall, and related some cases in which he had found it successful.

Dr. MARKHAM stated that the warm bath prevented the action of the skin as a medium for respiration, and so far it might be admitted that the warm bath might act injuriously.

Dr. WYNN WILLIAMS inquired of the author of the paper whether he had observed spasm to result from the application of hot water to the surface in cases of asphyxia. The experiments of Dr. Richardson had shown that the injection of warm water into the circulation produced spasm.

Dr. WATERS in reply said, that of the experiments he had detailed some were performed about four years ago. The attention of the profession was at that period directed to the subject by the late Dr. Marshall Hall. He (the author) at that time brought the results of his experiments, in reference to the hot bath, before the committee of the Liverpool Royal Humane Society. This Society had previously adopted the rules of the Royal Humane Society of London. The committee of the Liverpool Royal Humane Society referred his plan to the Liverpool Medical Society for their opinion. The result was that the plan was recommended, and it was therefore adopted. Unfortunately, no record whatever had been kept of the cases thus treated, so that no practical test of the working of the method was attainable. The attention of the profession having been again called to the subject by Dr. Christian, in a paper recently read before the Society, he had again proceeded with his experiments. There were two points on which he wished chiefly to throw light: first, the length of time the heart continued to beat after submersion for various periods; and, secondly, the effect of the hot bath. Most physiologists appear to believe that the heart did not contract during asphyxia. Sir Benjamin Brodie believed that the heart ceased to beat after submersion for five minutes. The experiments of Mr. Erichsen and those performed by himself tended to prove that the heart contracted for some time after complete asphyxia—in some cases after long periods. It was true the heart's action was very feeble; but as it did act a little there was still a prospect of life. Roesler had succeeded in restoring animation in rabbits after they had been submerged for five minutes and three quarters, nine minutes and a half, and eleven minutes and three quarters; and that, too, when six minutes had elapsed from the time of taking them out of the water to the commencement of the method of restoration, so that it was respectively eleven minutes and three quarters, fifteen minutes and a half, and seventeen minutes and three quarters after submersion. It was supposed by some, that when the heart had ceased to beat it might again be roused, and life restored. He (the author) did not think so; but if the heart did act, however feebly, it was possible to re-animate it by exciting respiration. In reference to the hot bath, the results were very striking; and although the experiments were not numerous, they led him to believe that the use of the hot bath was very prejudicial. There was no proof that the hot bath excited any respiratory effort. He believed it would be better to strike the body with a towel dipped in cold water, to admit cold air, &c. The immersion of the body in hot and cold water alternately would be difficult in the case of an adult; and, in the case of children born asphyxiated, he believed that the advantage obtained was from the cold and the shock. There was reason to suppose that cold excited respirations; but none to suppose that heat did so. Experiments were wanting to prove the effects of dry heat. He believed they were the same, though not so injurious, as those of the hot bath. The recent experiments of Mr. Hunter appeared to confirm his results. They tended to show that the hot bath was a depressant. It increased the amount of heat in the body, but interfered with the action of the lungs. His (Dr. Waters') views had been remarkably confirmed by the experience of a gentleman who had been for ten years house-surgeon to an infirmary near the Liverpool Docks. He said that, having had many cases of drowning to treat, he had formed a very unfavourable opinion of the hot bath; and he added, that after death, in cases in which the plan had been carried out, he had always found the lungs much congested. This evidence was the more valuable as it was given without any reference to the results of Dr. Waters' experiments. In reference to the treatment to be adopted in the case of persons apparently drowned, Dr. Waters recommended friction, moderate temperature, and the use of the movements recommended by Dr. Marshall Hall. By this method Dr. Sylvester had obtained a displacement of one cubic inch only. In his (Dr. Waters') experiments on the dead body he had succeeded in displacing eight or ten cubic inches, which would probably be sufficient. He believed that the position in which the body was placed in Dr. Marshall Hall's Method was of great importance in allowing fluids to fall out of the mouth. In reply to Dr. Wynn Williams, Dr. Waters said that he had not injected warm water into the veins. He had occasionally seen convulsions come on in animals placed in the bath.

Dr. E. SMITH said the inhalation of heated air, as in the Turkish bath, caused in himself an increase in respiration of 100 cubic inches of air, and a large increase in the rate of pulsation. Cold also caused an increase of respiration during immersion of the body in cold water during twenty-six minutes, but it did not increase the rate of pulsation. The heat acted as a general excitant, and the cold as a shock, and both by continuance would have lessened the respiratory function. In restoration from drowning in cold water, it is of the first consequence to restore the heat of the body, whilst at the same time we increase the respiration and the rate of pulsation. The application of heat is therefore most valuable for the first and third purposes; but as in the hot bath the pressure of the water tends to impede the feeble respiratory efforts, and the semi-erect position is not favourable to the circulation, it is better to use a hot-air room at 100°, and to lay the body horizontally. It is a mistake to assume that either heat or cold is important as an excitor of respiration during the few invaluable minutes in which respiration is sought, since their action is much too feeble, and for that purpose we must rely upon artificial respiration. Heat is only valuable in order to warm the body. Throwing cold water on the skin excites respiration when the body is warm, as in the newly-born and in fainting, but not in those drowned in cold water. The conditions of the two are totally different. The respiratory action of the skin is quite insignificant, since it amounted to only one per cent. of the lung action in his experiments, and to two per cent. in others; and that the body may be immersed for lengthened periods with impunity, may be seen in the use of the mud baths in Germany, and in the use of the baths at Leukabar in Switzerland, where the bathers remain immersed for eight to twelve hours for many days. To immerse the body in a liquid, which would prevent the transpiration of fluid, would be of far greater consequence, and particularly if the temperature of it exceeded that of the body.

"RESEARCHES ON PHONATION." — M. Bataille, the author of this valuable paper, lately presented to the Academy of Sciences of Paris, has been a favourite singer on the stage of the French capital; he is now Professor of Singing and Oratory at the Conservatoire, and was in his early days house-surgeon to the Nantes Hospital. The paper bears proof of the author's acquaintance with physiology, and forms an excellent essay on phonation based on many years' experience of singing and public speaking.

Reviews and Notices of Books.

A Treatise on Fever, or Selections from a Course of Lectures on Fever. Being part of a Course on the Theory and Practice of Medicine, delivered by ROBERT D. LYONS, K.C.C., M.B., Physician to Jervis-street Hospital, and late Pathologist-in-chief to the British Army in the Crimea. pp. 473. London: Longmans.

ALTHOUGH Dr. Lyons has produced a goodly volume, the reader must not expect to find in it the whole subject of fever fully evolved. The important topic of etiology is left unconsidered, and the fevers of intermittent and remittent types, with one exception, are not discussed. In fact, we may say that the chief intention of the treatise is to offer an exposition of the more recent doctrines connected with simple continued, typhus, and typhoid fevers, and to lay before the profession the results of the author's experience of the severe epidemic of yellow fever which invaded Lisbon in 1857.

The general pathology of fever adopted by Dr. Lyons is that propounded mainly by Virchow. He does not, it is true, regard it as affording a complete solution of the great problem, What is fever? but he thinks it may be safely accepted as embodying a large amount of what is more essential for the ultimate determination of the question. In that pathology the old doctrine of Galen finds favour—viz., that the most fundamental and essential manifestation of the febrile state is a *calor præter naturam*. Even when, as in the initiatory stage, the patient shivers and feels chilly, there is really increase of heat beneath the skin; or, to use the expression of De Haen, "while the outer parts freeze, the inner parts burn." This augmented temperature is assumed to be principally due to increased tissue-change, and this tissue-change is immediately connected with, if not entirely dependent upon, increased circulation, whether local or general. But what is the cause of this change in the force and frequency of the circulation? In all probability, certain conditions of a paralysing kind influencing the moderator-functions of the nerves. Dr. Lyons observes:—

"It is probable that the vagi nerves, and we would add, the sympathetic, are primarily if not chiefly engaged in the production of the febrile phenomena. If we seek for the determination of any centre for the regulator-functions of the nerves, and especially of the vagi, it will, in the opinion of Virchow, be most probably found to reside in the medulla oblongata near the roots of the vagi. ..... It is at least possible that the fever-poison first invades the animal system through the channel of the nerves. In your practical experience of the disease, you will not unfrequently meet with persons—and their evidence on the subject is very credible—who will tell you that they distinctly felt the first impression of the fever-poison, or, as we term it, the *fever-shock*. I have myself a distinct remembrance of the circumstance in my own case when I 'took the fever' some years since from a particular case of the worst form of maculated typhus in the Meath Hospital."—p. 33.

The author divides fevers into *primary*, *irritative*, and *eruptive*. Of the first there are three forms,—namely, fever of continued, intermittent, and remittent types.

The *continued fevers* are dealt with in detail under the heads of *Synocha*, or inflammatory fever; *Synochus*, or mixed or nervous fever; *Typhus*, or adynamic fever; and *Typhoid*, or enteric fever. The "febricula" and "ephemera" of some modern writers, as well as "hay fever," are regarded as mild forms or minor types of the *simple continued* form. "Relapsing fever" is also brought under this head.

The author having discussed these fevers, alludes to a condition of the system which he calls *typhosis*. This is a febrile state accompanying a low, prostrate condition of the system, a torpid state of the intellectual faculties and of the nervous energies in general. But there are other symptoms, &c., which differ much in essential details in different cases; they vary also in duration and course, and in the implication of particular organs.

The following morbid states are recognised by Dr. Lyons under the common head of *Typhosis*:—

1. "The typhus fever proper, which comprises the spotted, petechial, malignant, and jail or camp fever, and the Irish typhus *par excellence*.

2. "The typhoid or enteric fever, or dothion-enterite, otherwise known as the pythogenic, and sometimes as the French or continental fever.

3. "A state of the system in which, independently of the before-mentioned essential fevers, the pyrexial action which attends local diseases,—such as bronchitis, pneumonia, and occasionally hepatitis,—assumes all the characteristics of the low typhoid condition, with tendency to early sinking, collapse, and fatal issue.

4. "A state which supervenes upon cholera, and which presents a pyrexial reaction, having marked typhoid characters of the kind above detailed.

5. "A condition of the system which follows upon severe injuries, wounds, or surgical operations, and upon such diseased processes as erysipelas, phlebitis, and purulent absorption. This is the state, so often preluding a fatal issue, which is implied when we hear it said that the patient has sunk into a low typhoid condition."—p. 113.

Of these forms of "typhosis," the first, second, and fourth are very ably and amply discussed by Dr. Lyons; and we may refer to his account of the anatomic lesions of typhoid fever as about the clearest and most satisfactory that we remember to have seen.

With regard to the question of *contagion* in typhus fever Dr. Lyons expresses himself very guardedly, and is not prepared to say "whether personal contagion be possible under a system of perfect ventilation," though it is easy under the existing conditions of sick persons' rooms and the wards of hospitals. The author refuses to recognise contagion as accounting for the origin of the wide-spread epidemics of typhus which have so largely decimated Ireland. What will our young Toddites, and all addicted to Toddism, say to this doctrine?—

"Wine and other spirituous stimulants are of but doubtful use in typhoid fevers. When, however, it seems that, under the combined influence of the typhoid poison and the depressing effects of any of the great secondary lesions we have been considering, the case appears likely to sink by failure of the vital powers, wine may be administered with a liberal but cautious hand. ..... As a great medicament applicable in all stages of typhoid fever, no drug seems safer or more appropriate than quinine."—p. 290.

To the chapters upon Typhoid Fever we have a supplementary report on this disease as it appeared in the Crimean campaigns. It is shown by Dr. Lyons that considerably more than half of the whole deaths in that splendid army of over 300,000 men which France supplied in the late Russian war, was caused by fevers, or the diseases secondary to fevers; whilst on the side of England 10,000 men of the flower of the British army were carried off by the same class of affections in seven months during the first winter campaign. From the 1st of September, 1854, to April, 1855, 4228 men perished from disease in the hospitals of Scutari alone, of whom but 359 died from wounds. Such, rather than balls and bayonets, are the true war plagues. The destroying angel of an army is fever, not gunpowder.

In conclusion, we must observe that, whilst thinking well of Dr. Lyons' work upon some points, we are not altogether satisfied with it upon others. In the first place, more has been attempted than has been either completely or even consistently carried out. There are some palpable contradictions in statement, and a strange admixture of old and new views, the former of which we had thought quite exploded. The propriety of the union, too, of specific typhoid fever with the low forms of secondary pyrexial conditions attendant upon the diseases embraced in the author's third, fourth, and fifth category, before alluded to, is a question upon which some even of Dr. Lyons' own pupils could surely demur. So far, however, as a good exposition of typhoid and yellow fevers is concerned, the work merits our best commendation.

THE LANCET.

LONDON: SATURDAY, MAY 25, 1861.

THE annual gathering of the University of London is an event of special interest to the medical profession. This interest is due principally, indeed, to the circumstance that the metropolitan University is the Alma Mater of Medicine, holding a similar position in relation to the healing art which Oxford and Cambridge hold to literature and mathematics. But it is also due in no small degree to the fervour and admirable spirit with which the proceedings are conducted by the Chancellor, Lord GRANVILLE. The importance of the medical element in the University may be estimated by the facts that, last year, thirty-five candidates passed the first examination for the degree of B.M., twenty-four took the degree of B.M., and nine took the full degree of Doctor of Medicine. This characteristic was naturally dwelt upon by Lord GRANVILLE. The School of Medicine, he justly observed, was one of the great and eminent glories of the University. He believed that that School stood higher at the present moment than any other in the kingdom—he would not say the world, because it would be something like boasting, as there was no mode of testing the truth. It was true they were about to exhibit their skill in the National Exhibition of 1862, in order to compare their works with those of foreign nations, but they would not be able to apply any test to ascertain the relative amount of medical science and knowledge in different parts of the world. But it was not to be considered a subject of boasting. They had great advantages. The facilities for the study of Medicine in the metropolis were greater than could be acquired elsewhere, and the results were accordingly most satisfactory. The number of Doctors and Bachelors was at least four hundred; and he would appeal to all present, unconnected with the University of London, whether some of the most eminent medical men in the metropolis were not formerly medical students and graduates of the University. Without the slightest bias in the selection, the Committee had chosen two men who were the most fitting and most proper persons, in the interest of Medicine itself and of the teachers of Medicine, to be appointed Examiners of that art. But the beneficial influence of the metropolitan University has spread far beyond the creation of four hundred Doctors and Bachelors. The impulse given to the improvement of medical education has been felt in every direction. It may be fairly said that there is not an examining board or a medical school in the kingdom which has not recognised the superiority of the London educational curriculum and system of examination, by recasting its requirements more or less in accordance with those of the metropolitan University. From the beginning, practical tests were largely introduced into the examinations. Whilst the written answers exacted were the most extensive then known, the candidates were further required to conduct actual experiments in chemistry, and to show their acquaintance with anatomy and surgery by actual dissection and demonstrations; and for some years past an integral part of the examinations for the degrees in Medicine has been conducted in the very wards of the hospitals. Notwithstanding a certain *prestige*, derived from ancient associations and from social connexions, which is still reflected upon the medical graduates of Oxford and Cambridge, it is now very generally felt that, in all that contributes to the true and essential qualifications of the physician, London is pre-eminent. There is no parallel in the history of Medicine to the rapid occupation of so many posts of distinction as teachers and practitioners displayed by the graduates of London. The oldest amongst them are still, in a professional sense, young men; in number they form but an inconsiderable proportion of the great medical profession; yet there is scarcely an hospital, or school, or examining body in the kingdom in which one or more men trained in the University of London are not to be found.

The Chancellor did not neglect the opportunity for adverting to other topics affecting the University. Parliamentary representation just now is a thing to be looked forward to rather with hope than confidence. Last year, we believe, confidence predominated. Reform now looms in the distance more like a headland we are leaving in our wake, than a haven we are approaching. The University must bide its time. We note, however, gladly, the opinion of one so eminent in the political world as Lord GRANVILLE, that if the question be merely one of distributing English seats, the London University ought to have precedence over a Scotch University. Notwithstanding the unpromising aspect of the question, however, we understand that the supporters of the former candidates for the anticipated seat are again in action.

One subject upon which the Chancellor remarked was the comparatively small number of matriculations during the past year. He expressed his regret at this, on account of the individuals themselves; but the Senate felt so strongly that it was a question necessary to be investigated, that they went into it purely out of regard to the rejected candidates, and the result was, that they were of opinion that nothing could be more reasonable than the requirements of the Examiners for matriculation. What they required was, very little to be learned, but that that little should be well known and understood. He could not doubt that it would have a useful effect upon those schools and teachers who had failed to bring up their scholars to the proper mark. In this we recognise a determination to maintain that high standard of examination for which the University has always been distinguished, and which has, indeed, enabled it to outlive the prejudices, and to render ridiculous the sneers of its early opponents. The University has never for one moment sought to gain a temporary popularity by courting candidates, or by lowering its requirements to meet the educational capacities of particular institutions. It has been true to its principle, which is, that candidates and schools must raise themselves to the University standard, and not expect to pull down that standard to an inferior level. We are confident that this paucity of successful candidates for matriculations will not be continued in future years. Graduation in the metropolitan University is too enviable a distinction to be lightly abandoned. It is a distinction that implies industry, cultivation, and varied acquirements on the part of those who obtain it. If it can be achieved on no other terms,—and on any other it would speedily become worthless,—then certainly will the requisite credentials be produced.

With equal good humour and tact, the Chancellor touched upon the graduate element in the constitution of the University,

Convocation, that object so long fought for, and at length achieved. Referring to the early ebullitions of that body as a proof of "youthful vigour," he believed they would, after a time, soften down to the most useful habits of business. This anticipation, we are glad to be informed, has been already, to some extent, realized; and we do not doubt that hereafter, when a little less premature ambition, a little less self-seeking and intrigue, shall characterize the proceedings, Convocation will aid materially in developing the growth and spreading the fame of the University of London.

During the inquiry into the expediency of instituting degrees in Sciences at the University of London, it was forcibly urged by several persons, including Fellows of the Royal Society, that the "F.R.S." was in fact a degree in Science of the highest order. There is, however, an essential distinction. An academical degree may be acquired by passing a test or competitive examination, which ensures a respectable amount of cultivation and knowledge; but admission to this Society depends upon the arbitrary decision of a few men acting upon no definite test of comparative merit. The history of the elections at this very eclectic institution for several years past must considerably modify the estimation in which the three letters are held. The process of election to some extent explains the unsatisfactory result achieved. Although not, we believe, so restricted by statute, it has been agreed to enrol the limited number of fifteen Fellows annually. It is free to anyone to enter his name as a candidate, provided he can obtain the requisite number of attesting signatures. But the privilege of selecting, and consequently of electing, is virtually abandoned by the Society at large to the Council, which picks out fifteen persons for recommendation to the Society. The election of these fifteen is pretty secure; and howsoever great may be the claims of those to whom the fifteen have been preferred, they must be content with an exclusion which may sometimes, not without reason, be suspected of having been dictated by professional rivalry, or by still meaner personal impulses. The truth is almost indeed avowed, that scientific merit alone, or even combined, as it ought to be, with untainted social and professional character, is not a sufficient claim in the eyes of that very small, very busy, and very irresponsible clique which assumes the function of guiding the Fellows in the selection of their associates. Fortunate is the aspiring youth who, by reverential demeanour, is able to propitiate these arbiters of scientific distinction. Then will his budding promises seem of larger merit than the solid performances of others, and he may with confidence look forward to that reward which he would in all probability forfeit in the course of a few years' competitive friction with his early patrons. This has come to be so thoroughly understood, that few men who have attained a marked professional position in the metropolis will now venture to submit their names to the almost certain indignity of being declared ineligible as Fellows of the Royal Society. That honour, if honour it still be, a man must either snatch as it were by stealthy surprise whilst very young, or, if cursed with an independent spirit, he must wait with patience until he has lived down the animosities of professional strife Then, when full of years and honours, having achieved that which the Society pretends to foster, the Society will *want him*—for it must have at least a certain leaven of world-recognised eminence to preserve its credit. Provincial mediocrity, again, is a safe recommendation. The zealous observer of the habits of tadpole-life in the country, or of an interesting decapod at the seaside, has a much better chance of appreciation than has the most eminent practitioner of medicine or chemistry in the metropolis. Great is the ire that enters into the celestial minds which dispense the honours of the Royal Society when a rising competitor urges his claims. They stand aghast at his audacity, and quickly unkennel unsuspected genius from remote corners to make up the "fifteen" without him.

These and still more injurious reflections upon the proceedings of the Royal Society are so widely current that we have felt it necessary to advert to the subject. It is not our intention to annoy the many distinguished men whom the Council has set aside from the list about to be presented to the Society by placing their names in juxtaposition with the chosen. The latter we have already published. Two names well known in medical science, those of Dr. STOKES and Dr. PARKES, will command universal approbation. Few indeed are there amongst the remainder that will not excite surprise; and we can only say that that feeling would be considerably intensified if the names of the rejected were placed in comparison or in contrast. We suspect that the impartial verdict of the public would adjudge the laurel to those whom the Council seeks in vain not to honour. We have heard that the recent list has given so great dissatisfaction amongst the body of Fellows, and even amongst the Council, that it has been contemplated to propose to the general meeting some names beyond those nominated as the House List. Clearly something must be done to restore the credit of the Society.

DR. WATERS' valuable paper, reported at page 513, has again opened up the question, "What is the proper treatment to be pursued in cases of suspended animation?" The experiments performed on animals by Dr. WATERS appear, as far as they go, to be conclusive against the use of the hot bath in cases of asphyxia. Admitting that these experiments may to some extent be open to the objection raised by Dr. BARLOW, they certainly tend to corroborate the opinions entertained as to the value of the Ready Method of MARSHALL HALL. The philosophic and inductive reasoning pursued by Dr. WATERS affords a striking contrast to the assumptions which characterize the paper of Dr. CHRISTIAN read at a late meeting of the Royal Medical and Chirurgical Society. In the interests of humanity we again inquire when the question of the treatment of asphyxia is to be decided. It does seem indeed disgraceful to us as a profession that this matter should remain longer in doubt. It is of far more importance than determining the microscopic appearances of masses of diseased structure, or testing chemically the composition of fluids found after death. If only half the time spent by committees in the unravelling of these curious but often useless questions were devoted to a rational inquiry by competent persons into the merits of the MARSHALL HALL and opposing systems, a definite result might soon be arrived at. Hitherto, however, no efforts have been made upon the part of any of our learned Societies to solve the difficulty. Not a single series of experiments has been instituted nor a single committee appointed for this purpose by either of the Medical Societies of this metropolis or elsewhere. In the meantime the

public mind is kept in a state of painful suspense, and valuable lives are sacrificed to the inertness of those whose manifest duty it is to set the matter at rest at once and for ever. The decision arrived at by the Royal Humane Society, at best upon inadequate grounds, is of no value. The Liverpool Society, though adopting the suggestions of Dr. WATERS, strangely enough have kept no record to show the relative advantages of the opposing systems! And this is the way, then, that a great scientific question is treated. Who can be surprised that the faith of the public in remedial measures should be shaken when those who alone have the power to sustain it exhibit such culpable and unaccountable negligence!

Medical Annotations.

"Ne quid nimis."

REGISTRATION REVIEWED.

THE penal clause of the Registration Bill for Ireland, now in progress through the House of Commons, has not excited less opposition than we anticipated. The Irish practitioners have been roused by the warning of the Scotch faculty, whose indignation at this provision in their own Act is unquenchable, and the petitions presented against this clause are likely to be numerous and influential. The profession in Ireland are fully alive to the importance of securing an efficient registration of births and deaths in that country. The absence of such an organization has for many years been a standing reproach, and a permanent obstacle to that due estimation of the causes and extent of local sickness and mortality, so essential to all sanitary improvement. The medical profession have always been deeply interested in furthering measures destined to ameliorate the health of the people, and they have given too many pledges of their disinterested anxiety to be fairly open to the charge of hostility or even apathy on this occasion. They earnestly desire registration for Ireland, as it has long existed in other parts of the United Kingdom; but they wish to assume a just relation to the public and the Government in carrying out the scheme. In such a relation the medical attendant should not be called upon to give notice of the death; but if applied to by the relatives or persons in the house, or the registrar, for a certificate of the cause of death, he should give it if he is a legally qualified practitioner. This certificate ninety-nine men in a hundred give voluntarily, and there should be a power to enforce it by penalty if necessary, as the recalcitrant, through negligence or perversity, can only be thus reached.

This system is free from the injustice of the Scottish law, which compels the attendant to give notice. It is also preferable to that in use on the Continent, where an appointed "viewer" visits each dead body, and inquires as to the cause of death. To medical attendants generally this would not be satisfactory, and families in England would not like it.

The medical attendant has had the life of the patient in his hands, and the State has an undeniable right to ask him to account for the death. It thus treats him with confidence, which it does not extend to quacks.

THE INCOME OF ST. BARTHOLOMEW'S HOSPITAL.

THE general notions which we have of St. Bartholomew's Hospital connect it with resources of finance which are almost inexhaustible, and there is a traditional character of wealth and expansive power of income about this institution which adds greatly to its *prestige*. The balance-sheet does not, however, show so large an income as it might be supposed to enjoy, when the extent of its operations, its great fame, and its ancient connexion with the metropolitan magnates are considered. The income of St. Bartholomew's Hospital for 1860 was only £35,589 16*s.* 4*d.*; and four-fifths of this sum arose from rentals, the produce of estates lying mostly in distant parts of the country. Never were foundations more nobly or usefully applied: never was income more blessed in its expenditure. The total produce of the lands, after deducting costs of repairs, abatements, &c., is £27,537 12*s.* 3*d.* The next large source of revenue is dividends on stock, amounting to £4625 6*s.* 6*d.*, proceeding from a large capital of funded property; and various receipts from tithes, timber, &c., amounting to £2253 2*s.* 9*d.* The collegiate establishment figures as supplying £90 profit. Finally, there is one item which indicates the probably well-grounded confidence of the public in the sufficiency of the income to meet all the exigencies of the establishment. It is thus we interpret the statement—"Benefactions, £184!"

ARMY SURGEONS IN THE FIELD.

FROM a recent statement we learn that, from the beginning of the Indian Mutiny until the fall of Lucknow, the number of surgeons and assistant-surgeons killed and wounded in action was 17. There were killed at Lucknow alone, 2; wounded severely, 2: total, 4. Killed at Jhansi, 1; severely wounded, 1: both in the same regiment. Of the Arrah party, after the other two officers were killed, Assistant-Surgeon Clarke, of the 35th Regiment, commanded until he was himself mortally wounded. It was Surgeon Hone (Victoria Cross), of the 90th Regiment, who commanded the party of doolies when cut off from the column at Lucknow; and it was Assistant-Surgeon Wilson, of the 7th Regiment, who saved the life of the Duke of Cambridge, at Inkermann. It is, then, fairly asked, why are not army surgeons equally rewarded with other officers, since they are equally exposed? Why should there be no brevet, which is at least harmless in its operation? There was one in the late Company's service at last, and we concur in the regret expressed that it is not still in force.

THE TURKISH BATH IN AUSTRALIA.

THE Turkish bath has just been inaugurated with all the honours at the metropolis of the southern hemisphere. The inhabitants of Sydney have been initiated into the mysteries of this powerful process of sweating and hyper-oxygenating the frame, and the usual amount of enthusiastic bombast has been employed to celebrate its inauguration. One side of the *Sydney Morning Herald*, of the 15th of March, is filled with the speeches of the promoters and supporters of the Turkish bath. Personal testimony was borne by several persons to its efficiency in relieving them from the pangs of rheumatism and sciatica, and in one case of dyspepsia. A much wider range of utility was, however, claimed for it. Not only was it to cure all diseases, but to produce all desired changes in the body: to fatten the thin, and thin the fat. Jockeys, it was said, had lost four pounds a day; and invalids had gained as much. It was destined, said one gentleman, to make changes greater than many would believe in the physical, moral, and mental conditions of mankind. In building baths we were approaching that millenium which Tennyson describes in those noble words which on this, as on many other occasions, have found "themselves dragged into very singular company, and destined to perorate very remarkable orations." In sober truth, however, physicians who are led to speak of the bath now should remember that we want at this stage something more than mere words; we want records of properly-observed cases, in which the effects of the bath are noted by competent observers; we want to have its powers fairly estimated, and its influence examined, not described in the exaggerated and unconsciously false language of those not cognizant of disease or medicine, but in terms as precise and with details as satisfactory as we are accustomed to receive when other remedies are tested. It is very well for those highly instructed gentlemen who write

up the bath to tell the public, as we read lately in an article on the bath in the *Cornhill Magazine*, that as the body was sustained by air, it was as reasonable to heat or cook the air we breathe as the food we eat; but physicians must be aware that the medical public can only be alarmed and disgusted by statements so inexpressibly ignorant and ludicrously false as this, which confounds the air which oxygenates—that is, burns the carbon of the body, with the food which supplies it; and while speaking as though air were digested, implies that it is made more digestible or nutritious by being heated, instead of being rendered far more actively destructive, as we know it to be. This fallacy, which probably received a stamp of authority from the influential character of the magazine in which it appeared, was repeated at the Sydney meeting. We have had somewhat more than enough of promises and declamations. The profession will now look for duly-observed facts.

CHOLERA IN CALCUTTA.

THE cholera is just now raging in Calcutta and its suburbs. Diseases of this dangerous and fatal character are precisely those which afford the most promising field of speculation for nostrum-mongers and pill-vendors. We have received a large placard, in English and Hindustani, with which the walls of Calcutta are now being covered by a Dr. Honigberger. Dr. Honigberger dwells on the fact that the cholera is raging. Therefore he advises those who have an attack of vomiting and purging, with thirst, exhaustion, &c., not to use peppermint, laudanum, brandy, camphor, or chlorodyne, but cold water, ice, soda-water, lemonade, effervescing draughts, weak tea with milk and sugar, sherbets, sugar-cane, pomegranates, &c., *till they can have the inoculation of the compound tincture of quassia*, as that is the only proper remedy for cholera, which should be applied as soon as possible, and in case of necessity be repeated every three to six hours, according to circumstances. He also advises that persons should have the remedy inoculated for a limited period as a preventive measure. It is not necessary to speak of the folly of this mad proceeding, nor of the wickedness of urging a wholly ineffective and miserable pretence at treatment upon those who, when struck with this fell disease, may be thus induced to abandon effective measures. But we hope that the public of Calcutta are prepared to accept it as a truth not needing argument, that they had better avoid medical men who pretend to employ means which all others eschew, and who find it necessary to placard the town with their advice.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF WHOOPING-COUGH.*

To the Editor of THE LANCET.

SIR,—The remark in reference to the recent mortality from pertussis made by the Registrar-General in his last week's London report was as judicious as it was startling:—

"The deaths from whooping-cough have declined from 124 to 89; but this epidemic disease is still as fatal as small-pox, measles, scarlatina, diphtheria, and phthisis combined."

If anything will excite public attention to the culpable folly of neglecting an ailment always fraught with peril, and which, by some infatuation, is commonly considered as one that may be neglected with impunity, or treated by any old woman's nostrum, it is such an emphatic declaration by so high an authority, that whooping-cough is just now as fatal as the combined mortality from those dire diseases whose very mention in a household causes a shudder of dread.

In the majority of the cases mentioned we may consider that death absolutely ensued from pertussis, as the Registrar would have distinguished fatal results from complications. But we also know that there will be many an additional death in the course of the year from disease attributable to whooping-coughs now neglected.

In the practice of a London hospital where the patients comprise a very large number of children, cases of pertussis, presented under the most unfavourable circumstances, are necessarily numerous. And therefore, when making some clinical observations on the convulsive affections of children about five years ago at the Samaritan Hospital, the frequency of cases of whooping-cough and their varying tractability naturally attracted my attention. From opinions then formed I was led to adopt a system of treatment which I have since employed with most satisfactory effects, both as regards its salutary influence, and as giving a clue to understand why and how the good result is brought about.

I ask your permission to record in THE LANCET the considerations which influenced me, and the method of the treatment pursued.

In a case of ordinary whooping-cough there are evidently three very distinct elements of the disease, any one of which, if occurring alone, would obtain special consideration and treatment:—

1. Thus, not only has the premonitory catarrh no special characters by which it can be certainly recognised as heralding the advent of the whooping stage, but even when that period has arrived I doubt if there be any pathognomic marks by which this part of the malady, taken *per se*, could be diagnosed as pertussal. For the successive cough and its sequent whoop, and the pathological changes found in the chest, indicate only the mechanical influence exercised by the narrowing of the laryngeal passage; whilst this want of a free air-way prolongs the effort to clear the tubes;—diminishing the force of that sudden jerk by which adherent mucus is dislodged in the process of an ordinary cough.

2. Take away the catarrh and cough, leaving the expiratory obstruction and inspiratory spasm, and there remains a condition nearly resembling laryngismus both in its pathology and symptoms; for in both the influence comes through the recurrent laryngeal from the medulla, the difference being only in the afferent cause.

3. But the third element of the disease it is even more important to separately distinguish and consider in its individual bearing, for its influence is more subtle, and its extent and significance can only be estimated by observation and judgment; whereas the hardness of the cough and the struggle through the whoop tell their tale almost as clearly to the old nurse as to the doctor. I refer to that physical influence antecedent both in time and in pathological sequence to the bronchial and spasmodic symptoms, which, however originally impressed on the system, must certainly be overcome by nature or art before a cure is effected.

Whether pertussis be held to be endemic or contagious, I think there can be no question as to certain differences in character and intensity obtaining at different visitations. According to these, to the condition and age of the patient, to the time of year, and to other modifying causes, I believe one or other of the elements above mentioned will be found to particularly predominate.

And here we find an explanation of the success at various times attributed to remedies apparently the most diverse in their operation. There are about forty of them, all respectably vouched for as being of great efficacy.

1. Thus if the bronchial symptoms and cough, caused by accumulation of adhesive glairy mucus in the irritated tubes, most predominate, we perceive why emetics, antimonials, and other expectorants, hot baths, inhalations, &c., have attained so high a repute; and why pneumonia, emphysema, atelectasis, &c., should occur as complications or terminations.

2. If the spasmodic laryngeal symptoms most prevail, then a second series of remedies have their fame accounted for—hydrocyanic acid, chloroform, assafœtida, musk, belladonna, opium, &c. Then also the deficient aëration, with obstructed circulation, and the fierce strugglings to overcome the impediment, explain the grave complications of head and heart symptoms.

3. And where it is the third element which predominates, where any irritated nerve conveying its afferent impression to the spinal axis suffices to excite reflex spasm, or where a morbidly exalted susceptibility gives undue intensity to even ordinary impressions, then we can account for the confidence expressed in the curative influence of tonics and alteratives, (mineral and vegetable acids, quinine, the metals, nux vomica, alkalies, alum,

* I prefer this spelling of the word, as "whoop" (ωφυσμα, Goth.) can have but one meaning; whereas "hoop" (*hoppe*, Fr.), if employed at all in this sense, should be spelt as Chaucer uses it, "houp," lest it be confounded with the word, identical in spelling, but diverse in meaning, derived from the Dutch, "hoep."

&c.,) according to the exciting cause or condition of existing debility. We also perceive why in such cases marasmus, tabes, phthisis, &c., should frequently follow.

These considerations led me to adopt the following formula, and to employ it in the manner described, the dose here given being for an adult, and the case one in which the whoop is established:—Antimonial wine, twenty minims; tincture of aconite, four minims; potasso-tartrate of iron, eight grains; distilled water, one ounce.

1. I selected tartar emetic to increase the bronchial secretion, and thus facilitate expectoration. It has been universally used in whooping-cough for many years, without any of those symptoms of intestinal irritation being observed which usually render great caution necessary in administering it to children.

2. I selected aconite as a sedative exercising a general and special nervous influence, without previous vascular excitement, and which also acts as a sedative on the muscular system. Of its poisonous effects I have never observed the least evidence, and need hardly remark that it is far safer than hydrocyanic acid, because less variable in its strength.

3. Iron, both from the strong evidence as to its special value in whooping-cough, and from its remarkable efficacy in atonic neuralgiæ and nervous affections, naturally suggested itself as applicable to counteract the third of the modifying influences described.

The dose, regulated according to age, is administered three times in the day, and twice in the night. I expect in two days to find some change in the relation of the three morbid conditions, requiring a corresponding modification of the medicine.

1. If the cough continue long and hard, and recurring after the first whoop has been accomplished, then the relative proportion of the antimonial is to be gradually augmented until its influence is established.

2. In the same way the amount of aconite may be cautiously increased, if, with free cough and expectoration, the laryngeal symptoms, the kink and the whoop, do not abate; but I never increase the adult dose beyond six or eight minims.

3. If the child remain pale and exanimate after the attack, or be of feeble constitution, then the proportionate dose of the iron should be augmented, if the strength does not rapidly improve as the attacks diminish in intensity. But if at the end of a week the symptoms are not improved, I think I am justified, from the observation of a large number of cases, in expressing a decided opinion that there then exists some extrinsic cause, keeping up an irritative influence, and perpetuating the reflex recurrence of the spasm. This appears tantamount to expressing an opinion that the stage of the whoop has its special duration, as the stages of other epidemic diseases have; but, however this may be, this time is, in reality, only mentioned on account of the periods at which the patients chiefly under observation were seen.

Of the influences referred to, I have found the most frequent to be thread-worms, improper diet, and unwholesome air. Sometimes it is impaired digestion, produced by frequent administration of emetics, or by the vomiting accompanying that transient congestion of the brain which occurs during a "hard fit." Enlarged bronchial, mesenteric, and cervical glands, teething, persistent constipation, full meals, rapid alternations of temperature, mental irritation, or the foolish system of hitting children on the back or jerking them violently in the arms during an attack, all tend to keep up irritation.

Counter-irritants applied to the spine I believe to be most useful; and, for obvious reasons, I always order that nothing hard or solid shall be swallowed.

Lastly, I do not think that too great stress can be laid on the importance of strictly following carefully-enjoined hygienic rules. It is from the attention paid to these apparent trifles that undoubtedly arises the boasted successful issue in cases of whooping-cough treated under that singularly blasphemous system of quackery introduced by Hahnemann. I think this is the only expletive applicable to those audacious assertions enunciated by him in the "Organon," and which I suppose his followers endorse. I know no other word that properly designates the arrogation to remedies proved to be inert of effects entirely produced by the unimpeded operation of the beneficent laws of the Creator. Had the credit been wrested from a mortal, there would long ago have been a great outcry against such impudent assumption.

> "Should such blasphemer, then, escape the rod,
> Because the insult's not to man but God?"—POPE.

I remain, Sir, your obedient servant,

HENRY G. WRIGHT, M.D., M.R.C.P.,
Physician to the Samaritan Hospital for Women and Children.

Somerset-street, Portman-square, May, 1861.

"WHAT IS PROOF OF LIVE-BIRTH?"

To the Editor of THE LANCET.

SIR,—In your remarks on the case Brock *v.* Kellock, printed in the number of your journal for the 11th inst., in which I was consulted, referring to Vice-Chancellor Stuart's judgment, you say, "this decision is of importance, inasmuch as it will go far to form the law, which has hitherto been unsettled as to the point at issue."

I quite agree with you that it is most desirable, and indeed necessary, that some definite rule should be laid down in English law as to what constitutes a live-birth; because until that is done, whenever such a question may hereafter come before the Court, the same unsatisfactory practice must in each case be resorted to, of applying to living authorities for their opinions on the subject, and the same conflicting medical testimony that has hitherto brought such scandal upon our profession must therefore be expected.

But I am not prepared to acknowledge that a lawyer, however astute or intimately versed in legal doctrines, is the best of all persons to determine a physiological point on which such a difference of opinion exists as on that under consideration. I have no hesitation in declaring my own, that Sir J. Stuart's dictum is founded in error, and for the following reasons.

I think, with the late Dr. Denman and Fodéré, that a great distinction should be drawn between intra-uterine and extra-uterine life—between that life which is preserved to the fœtus by its parent's intervention, and that in which the child carries on an independent existence of its own. In common parlance, life is considered to begin at birth; and a man's age is reckoned not from the time at which uterine life commenced, but from the time when he emerged into light. And this is quite proper even in a physiological point of view. As soon as a child is born, if living, it enters on a new phase of existence; organs hitherto dormant are called into activity; and functions necessary for the continuance of vitality, heretofore performed for it by its mother, are suddenly transferred to its own person, to be henceforth discharged by itself through an independent agency. The expansion and energetic action of organs previously collapsed and quiescent, and the development of functions previously unknown, constitute a state of being so different from that which has just terminated as to warrant us in considering the individual to have commenced the enjoyment of a *new* and *fresh* life; for although the infant after its birth continues to be absolutely the same body as the fœtus while in utero, yet the changes which take place on the establishment of respiration are sufficient to stamp a decisive mark on the two conditions of existence as being perfectly distinct and separate from each other. The commencement of the action of breathing is universally regarded as heralding the entrance into life; and no medical practitioner would hesitate to certify as still-born a child that had never breathed, unless there were proofs present of its having been accidentally smothered before his arrival.

A very curious and interesting case bearing on this subject came under my notice some years ago. A servant, sleeping in a room alone, was taken in labour during the night. She placed herself on a slop-pail, which stood in her chamber, quite full of the house-slops of the previous day. The child was expelled head foremost into the fluid. She raised herself suddenly, and broke the funis close to the placenta, leaving the placenta itself in utero. Her mistress, finding her in the morning unable to rise, called the family surgeon to see her. He discovered the child, and sent for me. She stoutly denied that the child was hers; but, on examining the abdomen, I felt convinced that the placenta was still in utero. I found it adherent there, and removed it by the hand. Of course an inquest was held on the child's body. No air had entered the lungs; indeed, from the circumstances, that was impossible; but in the stomach we found nearly an ounce of exactly the same kind of dirty fluid in which the body was immersed. The late Mr. Baker, the Coroner for the district, ruled that the child was not born alive, because it had never breathed, and a verdict of still-birth was accordingly returned; this, too, in the face of the strongest proof that it was born alive, else none of the fluid which surrounded it could have passed into its stomach. If a dead body be thrown into water, and the glottis be open, some of the water may pass into the trachea and bronchi, and even into the air-cells of the lungs; because the irritability of the glottis being destroyed, the water may gravitate through the tube, which is kept distended by the cartilaginous rings. But the case is different with the œsophagus; the sides of that canal are close together, and an effort at

swallowing is necessary for fluid to pass into the stomach. This effort must be made during life; and therefore, in the case under consideration, no doubt the fluid had been swallowed under some futile attempts to breathe. Notwithstanding that all this was explained to Mr. Baker, he directed the above verdict, because, according to his dictum, the law looks upon any child that has not breathed as still-born.

My objection to Vice-Chancellor Stuart's dogma is, not that fœtal life may not be continued for some time after expulsion, but that such a state of being is nothing more than the remains of a much lower degree of vitality than is attained after respiration is established; and, for myself, I cannot help thinking that the Legislature, in passing the statute of "tenant by courtesy," intended by the words "born alive," not that there should merely be evidence of the continuance of fœtal existence, but that the infant should have assumed for itself that new state of being which is universally regarded, in the ordinary acceptation of the term, as the "commencement of life."

I am, Sir, your obedient servant,

Portman-square, May, 1861. FRANCIS H. RAMSBOTHAM, M.D.

To the Editor of THE LANCET.

SIR,—Although retired from the active duties of the profession, I still feel great interest in everything which concerns obstetrics. I have for many years laboured to raise the value of embryonic and fœtal life, and to depreciate as far as possible the *murderous operation of craniotomy* in the estimation of those who practise midwifery, (*vide* "The Value of Embryonic and Fœtal Life, Legally, Socially, and Obstetrically Considered," "British Record of Obstetric Medicine," &c., 1848; also several papers in *Provincial Medical and Surgical Journal.*)

On this account I read with great satisfaction (as an effort in the right direction) the excellent remarks of Dr. Tyler Smith "On the Abolition of Craniotomy from Obstetric Practice in all Cases where the Fœtus is Living and Viable." ("Transactions of the Obstetrical Society," vol. i.) I also read with pleasure, and felt the truth and justness of the opinions of Mr. Freeman and Dr. Tyler Smith, "that pulsation of the heart is evidence of live-birth," (delivered before Vice-Chancellor Stuart in the case of "Brock *v.* Kellock.") A different opinion was, however, expressed by Dr. Robert Lee, who maintained that respiratory action is necessary to constitute life; but the Vice-Chancellor wisely decided otherwise.

Dr. Robert Lee asks (THE LANCET, May 18th, p. 493), "If a child is born, but neither moves nor breathes, and shows no other sign of life except 'a slight pulsation at the cord' (funis), ought I to consider such a child to be born alive?" &c. If pulsation exists in the funis, there is strong presumptive evidence, more especially if it is felt at or near to the umbilicus, that the child possesses a greater or less degree of vitality; for it is physiologically true that if the child dies, the placental circulation soon ceases, and with it almost immediately that of the funis, first nearest the child's body, but not long after in its entire length. To entertain a contrary opinion would lead to a most disastrous practice, and would consign to the grave infants which might, and indeed would, be saved if (under conviction of suspended animation) resuscitating measures were energetically and perseveringly used.

With respect to the question of "what is proof of live-birth?" physiology can alone decide it; it belongs to medicine, and not to law. There are gross inconsistencies in reference to fœtal and infantile life on the statute books which ought to be expunged, and more enlightened views recorded to justly guide legal decisions, more consonant with common sense, and based on a knowledge of the physiological laws of life both before and after birth.

I shall not further extend my remarks at the present time, as your valuable leading article last week upon this subject makes it quite unnecessary for me to do so; but I do hope that the time has now arrived when several moral, social, and obstetric questions in relation to the value of embryonic, fœtal, and infantile life will receive a greater consideration from the members of our profession, which may lead the Legislature to adopt opinions based on science and humanity.

I am, Sir, your obedient servant,

THOMAS RADFORD, M.D.

Higher Broughton, Manchester, May, 1861.

To the Editor of THE LANCET.

SIR,—If your readers were interested in your report of the case of "Brock *v.* Kellock" in THE LANCET of the 11th inst., and your subsequent comments thereon, possibly the annexed extract from my note-book, in relation to a case bearing upon the subject which occurred in my practice, and which excited some doubt in my mind at the time, may not be devoid of interest. I may add that the district registrar, on the strength of my opinion, recorded the birth (i. e., the live-birth) and the death of the child, neither of which he would or ought to have done had the child been still-born.

"April 13th, 1858.—Mrs. T. S——; primipara. Presentation natural; labour severe and difficult—duration thirteen hours. Child, a boy, moribund; no instruments used,* but from the strong pains and detention in and passage through a somewhat straitened pelvis, the fœtal head was greatly contused, the vertex tumefied, the forehead compressed, and the nucha abraded. Respiration never occurred, although the heart was felt and seen beating for a quarter of an hour; pupils widely dilated, and one eye open, but dull. Meconium had been discharged in utero, and oozed from the vagina in large quantities after the birth of the child.

"Could it be said to be born alive? Vitality certainly existed, although respiration had not commenced—not a sigh or gasp ever witnessed. Perhaps dead (still-born), according to vulgar acceptation and the regulations of the Registrar-General, although physiologically and really alive at birth.

"The apoplectic state of the child, caused by the injuries it had sustained in its birth, rendered all attempts made to induce respiration, by the postural method and other means, hopeless and unavailing. All pulsation ceased in less than half an hour."

I have attended the same female twice subsequently, and on each occasion she has given birth to a living child.

I am, Sir, yours &c.,

Stanhope, May, 1861. GEO. ARNISON, L.R.C.S. & P. Edin.

FRUITLESS SUCKING AND IDIOCY.

To the Editor of THE LANCET.

SIR,—Your correspondent, Dr. Richardson, has fallen into an error which I find is common to many who have read the abstract of my paper "On a Preventable Cause of Idiocy," &c.,—namely, a supposition that the substance of it was to attribute idiocy to "sucking the thumb." Now it so happened that "sucking the thumb" was not once mentioned. The error was assumed by Dr. Down, who rose first to speak to the paper. I am anxious to correct this erroneous impression by assuring Dr. Richardson that by fruitless sucking I do not mean "sucking the thumb." Fruitless sucking is a genus of which sucking the thumb is a species. I have fully explained what I mean by fruitless sucking in the work I have published on the subject, to which allusion was made in the paper; and I do not hold myself responsible for any other interpretation of it than that I have given.

The discovery I claim to have made, and which I am anxious to have recognised by the profession, is, that fruitless sucking is the principal cause of diarrhœa in infants.

The object of my communication to the Medico-Chirurgical Society was to attract attention to this subject, by pointing out that the condition of idiocy bore evidence of the truth of my views, by its being stamped with the proofs of long-continued, retained habits of fruitless sucking in the manner I have explained.

I have not said that idiocy resulted *directly* from fruitless sucking, but that fruitless sucking causes thinning and softening of the stomach and intestines, of which process the frequent and green stools are the evidence. From this impaired condition of the *prima via* an imperfect growth and nutrition of the tissues of the body obviously results. And this is shown in the "pathological condition of the brain and the various scrofulous manifestations" which Dr. Guggenbühl has observed "to be associated with idiocy, and to depend upon some *undiscovered cause* operating in early life."

Two centuries ago Dr. Sydenham wrote that the convulsions of infancy resulted from diarrhœa, and I cannot see that he attributed them to teething. His words are—"Epilepsia vel *primo mense* aggreditur a frequentibus nimis alvi dejectionis, vel *circa* dentitionis tempus," &c.

Idiocy appears to be a state to which an unfortunate child is reduced who has suffered severely with diarrhœa in infancy, and had in consequence either a severe attack of convulsive disorder, or, what is perhaps more usual, a frequent recurrence of it, and has been unfortunate enough to survive its affliction.

Mr. Wilde, in his work on the "Institutions of Austria,"

* Forceps sent for, but delivery effected shortly before the messenger's return. Catheterism required afterwards.

states that the great mortality in the Vienna Foundling Hospital had baffled the attempts made to lessen it. During fifty years it ranged from sixty to ninety-five per cent.; and that it resulted especially from diarrhœa. He also says, "the general infantile mortality in Vienna and throughout Austria is very great, and the causes of death are chiefly abdominal diseases." Again: "Each infant, no matter whether it suckles at the breast or is spoon-fed, is provided with a kind of artificial nipple, called zuzel or zulp, and formed of a bit of linen, in which a piece of pap or bread-and-milk, about the size of the thumb, is bound up." I believe this custom explains the great mortality, and from other information I have obtained, as well as my own observation, I think it probable that some of the few survivors are idiots.

I am, Sir, your obedient servant,

Southwick-place, May, 1861. THOMAS BALLARD, M.R.C.S.

COLLEGE OF DENTISTS OF ENGLAND.

DR. RICHARDSON delivered the first of a course of three lectures on the "Salivary Glands and Saliva," before the members of this College on the evening of Tuesday, the 14th inst.

After a few introductory remarks, Dr. Richardson gave a general outline of all the glands of the body, showing their natural division into secreting and non-secreting glands, and their classification according to position, structure, and function. He first described them as belonging to great tracts, including a comprehensive enumeration of all the glands. He then gave a general idea of the construction of glands, remarking especially on the great law, that in the construction of glands as much blood as is possible is brought to a point by bloodvessels, and exposed to the largest possible secreting or elaborating surface. He also dwelt on the importance and peculiar influence of nerves in regulating the supply of secretion in glandular structures.

After concluding the anatomical, structural, and physiological classification of glands, in which he devoted special attention to the organs of insalivation,—the parotid, sub-maxillary, and sub-lingual glands,—Dr. Richardson took up the question, why individual glands should produce "specific secretions;" explaining the primary facts—that the blood is the source of every secretion; that the power of "special secretion" does not lie in the "mechanism of a gland;" and that the whole process of secretion is evidently conducted through the agency of some chemico-physical relationship existing between cells and blood.

Dr. Richardson concluded by observing that the recollection of the subject-matter of that lecture would greatly facilitate his consideration of the "Salivary System" especially in his next.

A beautiful series of coloured diagrams added materially to the comprehensiveness of a most interesting lecture.

REGISTRATION OF BIRTHS AND DEATHS, SCOTLAND.

THE following is the petition adopted by the Glasgow Faculty of Medicine:—

To the Honourable the Commons of Great Britain and Ireland, in Parliament assembled.

The petition of the undersigned —— ——, Surgeon,

Humbly sheweth,—That your petitioner is a legally-qualified member of the medical profession, practising in of shire.

That since the Act 17 & 18 Vict., cap. 80, came into operation, your petitioner has been annoyed, and held in fear, while in the pursuit of his lawful calling. That, by section 41 of said Act, power is given to the common prosecutor to institute proceedings against your petitioner, whereby serious penalties may be inflicted on him, in case he should omit or decline to grant, gratuitously, certain professional certificates; said certificates being of much importance to the community, for whose interest and behoof they are demanded.

That your petitioner is altogether at a loss to comprehend on what principle he is thus dealt with; that he considers his professional knowledge and labour his legitimate property, of any portion of which he cannot constitutionally be deprived, on any pretext whatever.

That your petitioner cannot lend his sanction to a law which, under the threat of punishment, compels the members of any class of men devoted to scientific pursuits to give the result of their investigations otherwise than as a free gift to the State. Every system of terror and coercion so applied, being a gross violation of every honourable and upright principle, must fail in practice to produce the results ostensibly wished for—truthful and reliable information. Fear, injustice, and wrong naturally lead to evasion, resistance, and hatred.

That, whilst your petitioner is glad his fellow-practitioners in England are wholly exempt from any such grievance, he cannot but express his indignation that so uncalled-for a distinction should have been made between him and them.

May it, therefore, please your Honourable House to take the premises into consideration, and repeal the penalty portion of the 41st section of the Act 17 & 18 Vict., cap. 80, and your petitioner, as in duty bound, will ever pray.

——, in the County of ——, May, 1861.

(Signed)

PARISIAN MEDICAL INTELLIGENCE.

(FROM OUR SPECIAL CORRESPONDENT.)

FOR the last two years the greater part of the sewage of Paris, collected by an enormous main drain traversing the town from east to west, has been discharged into the river Seine at Asnières, a village distant about three miles from this capital. At a short distance from Asnières, and lower down the stream, lie embedded in the river the pipes through which the water is sucked up by steam pumps to the great reservoirs whence the suburb of Montmartre and a population of 200,000 souls derive their chief supply. Since the opening of the main sewer the inhabitants of this district had found that the water, hitherto excellent and perfectly wholesome, had acquired the very opposite qualities; and a petition had been addressed to the municipal authorities in order to obtain a prolongation of the supply pipes to another point in the river where the water was less impure. Those alone of your readers who have had the misfortune of being involved in a Chancery suit can form an idea of the tedious character of French ministerial proceedings. The water in question emitted a disgusting odour; it had a muddy look and a nauseous taste; it produced colic and vomiting. Was it unwholesome, and was it impure? For the solution of this problem the three infallible evidences of sight, smell, and taste might surely have sufficed; but we do things differently in France, and the following process was consequently adopted:—1st, the local sanitary board of Montmartre, composed of the mayor, two doctors in medicine, two chemists, and three architects, met, inspected, tasted, smelt, and analyzed (talking a little between-whiles), and finally gave vent to their feelings in a *report*. 2ndly, the Superior Sanitary Council of the Seine, presided over by the prefect of police, and consisting of thirty-two members, amongst whom are MM. Guérard, Devergie, Cadet de Gassicourt, Petit, Jobert de Lamballe, Bouchardat, Michel Lévy, Bérard, M. Dubois, Dean of the Faculty of Medicine, and several celebrated architects, likewise assembled to consider the question, and, after a similar course of proceedings, issued a *second report*. The municipal authorities, however, not so easily satisfied, requested a second examination of the subject by the same Superior Council, and a *third report* was framed. The question then passed under the consideration of the "Ponts et Chaussées," and a *fourth report* was the result; all which being considered insufficient, the subject was submitted to the highest of the sanitary tribunals in France, the "Consulting Commission of Public Hygiene," and the apparent consequence of this last and *fifth report* has been the desired prolongation of the Montmartre suction-pipes to a point where the water ceases to be a mere emulsion of sewage. An indiscreet member of the select vestry of Montmartre, however, who gives very excellent dinners, and who, whilst apologizing for the badness of the water, furnishes irreproachable Richebourg as a substitute, informs me of a fact which explains the recent rapid solution of the hydrological difficulty. It would appear that the 200,000 inhabitants, growing impatient of the interminable official routine imposed by the municipality, directly petitioned the Emperor for redress.

Two days after the receipt of the petition at the Tuileries a steam mud-drag was to be seen at work on the river, and before the expiration of the week the requisite extension of the line of water-pipes had been effectually carried out, and the doctrine of Rechab became once more possible in that district of Paris: another exemplification of the utility of an occasional glance from the *œil du maître*.

The project for a law to regulate the manufacture and sale of lucifer matches is, it is said, at the present moment under discussion by the Council of State. The tenor of the proposed modification imports that for the future matches are to be packed in bundles containing one thousand each, and that each bundle is to be burdened with a tax of fourpence; in addition to which the establishment of no manufactory shall for the future be permitted without special sanction. Such measures as these are entirely beside the question. The great desideratum is and always has been the suppression of the use of the poisonous white phosphorus, deadly alike to the workman and to the consumer. The French medical papers contain numberless cases of necrosis of the lower jaw and other bones of the face arising from the employment of this substance in the arts; and the general press not unfrequently offers examples of the criminal uses to which lucifer matches have been applied by suicides or poisoners. In a very able report on the subject lately read before the Academy of Medicine by M. Bouvier the same views were advocated. But the authorities have been deaf to all suggestions; and although the inoffensive chlorate of potash matches, with the special friction surface containing the red amorphous phosphorus, are more common now than formerly, the improvement is due far more to the general good sense and humanity of the public at large than to any Government regulations. The authorities, however, seem anxious for a peg whereon to hang an *impôt;* and, as the white phosphorus match is cheap, and for the purposes of ignition far better than any other, have deemed the opportunity too advantageous to be lost. One of the general papers a few days back proposed a compromise, which may possibly be accepted and suit all parties: namely, the substitution on the part of the Government of a monopoly in place of a tax; the matches *prepared with chlorate of potash* to be supplied as heretofore by the manufacturers, and the Government to furnish the special friction surfaces, issued in the same way and somewhat in the same form as the postage stamps. Such a proceeding would solve the sanitary difficulty.

There are certain cases of chronic iritis, with closure of the pupil, in which the retina is sound, and the resistance opposed to the entry of luminous rays by the opaque iris is the only impediment to vision. But besides the atresia of the iridian diaphragm, other morbid changes have occurred, which render a simple excision of the iris either useless or hurtful—namely, a synechia posterior, and the iris is glued to the anterior surface of the crystalline capsule. The ordinary operation for artificial pupil is here inadmissible, its performance being invariably followed by inflammation and consequent opacity of the lens. In such cases M. de Graefe advises the extraction of this body as a preliminary step in the treatment, and recommends that an interval of four weeks or two months be allowed to elapse before iridectomy be resorted to. This method, which appears to be a revival of Wenzel's plan, is stated to have been attended with the best results.

It may not be without interest to your readers to know that the following works have been adopted at the Military School at Strasburg, by order of the War-office, as text-books during the curriculum of study:—Anatomy, Sappey's; Physiology, Béclard's; Chemistry, Malagutti's; Physics and Meteorology, Ganot's; Botany and Medical Zoology, Moquin-Tandon's; Histology, Morel and Willemin's; External Pathology, Nélaton's; Internal Pathology, Grisolle's; General Pathology, Chomel's; Operative Medicine, Sédillot's; Obstetrics, Cazeaux's; Materia Medica, Bouchardat's; Hygienics, Michel Lévy's; Jurisprudence, Briand's.

M. Hiffelsheim, whom I mentioned lately in connexion with some experiments which had been commenced at the Salpetrière by M. Baillarger, on the effects of the continued voltaic current in the treatment of hallucination, has just sent in a memoir to the Academy of Sciences, describing the various useful applications of this particular mode of electrization. He states that he has found the effects of the continuous current to be sedative in the cases of the nervous centres and of the nerves of sensation; the interrupted current, on the other hand, when brought to bear upon the motor nerves, he has found to possess stimulating properties.

A circular from the Minister of the Interior has recently been issued, enjoining the directors of the Foundling Hospitals and other Government charitable establishments for children, to draft off their young charges whenever feasible into the rural districts. In 1860 it was ascertained that no less than 158,754 children were being actually maintained at the expense of the State, and the present minister is determined to cut down this overgrown item by every means in his power. Meanwhile there is a petition actually before the Senate praying for the general re-establishment of the "*tours*," or turning-baskets, at the various Foundling Hospitals.

Paris, May 20th, 1861.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 21st inst.:—

Gardner, Charles, Toronto, Canada West.
Smith, John, Gillingham, Kent.
Thomas, William Lanham, Horsham, Sussex.

LICENTIATES IN MIDWIFERY.—The following Members of the Royal College of Surgeons of England, having undergone the necessary examinations, were admitted Licentiates in Midwifery at a meeting of the Board on the 22nd inst.:—

Garnham, Devereux John, Lowestoft; diploma of membership dated April 16th, 1861.
Johnson, Cuthbert Newington Hughes, Winchester; Jan. 30th, 1861.
Kidd, Henry Alexander, Calcutta; April 30th, 1861.
Ninnis, Belgrave, Surrey-square, Old Kent-road; April 18th, 1861.
Phillips, George Bagster, Clapham; April 19th, 1861.
Smart, John Naish, Bedminster, Bristol; April 11th, 1861.
Smith, George, Birmingham; Aug. 15th, 1849.
Whitmarsh, Wm. Michael, Chippenham, Wiltshire; April 11th, 1861.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the science and practice of medicine, and received certificates to practise, on

Thursday, May 16th, 1861.

Purse, Edwin, South Molton, Devon.
Goldsmith, George Pocock, Bedford.
Hale, Edmund Thomas, Beaufort, South Wales.
Jackson, Thomas, Leeds.
Robinson, Edmund, Birmingham.
Wilkinson, Charles, Kentish Town.

ROYAL COLLEGE OF SURGEONS, EDINBURGH. — The following gentlemen, having passed their Examinations for the diploma, were admitted Licentiates of the College at the recent sittings of the Examiners:—

Curtis, Joseph Lindsey, Co. Cork.
Fulton, Thomas, Co. Down.
Gray, Thos. Scott, Perthshire.
Haines, Charles, Co. Cork.
Howden, Thomas, Haddington.
Inman, Wm. Jabez, Dominica, West Indies.
Logan, F. Lockwood, East Lothian.
M'Nee, James, Perthshire.
Mulvany, John, Co. Meath.
O'Donoghue, David, Dublin.
Phelan, Wm. Bernard, Co. Tipperary.
Rosseau, Peter Alex., Trinidad.
Russell, Chas. Martin, Jessore, East Indies.
Saul, Isaac Cromie, Co. Down.
Vartan, P. K., Constantinople.

DR. TAGLIABO, late president of the Medico-Chirurgical College, has just died at Rome.

PROFESSOR LIEBIG. — This eminent chemist has been appointed Foreign Associate of the Academy of Sciences of Paris, in consequence of the vacancy left by the death of Tiedemann.

ARMY MEDICAL DEPARTMENT. — Assistant-Surgeon Kirwan has passed the prescribed examination in the Vernacular Hindustani. Medical officers serving in India, who have passed this examination, are eligible for staff appointments.

MUMFORD'S LUNAR CAUSTIC FOR SURGICAL PURPOSES. —Mr. Mumford has succeeded in producing a caustic which is free from the brittleness of ordinary nitrate of silver. This preparation can be used with comparative safety in cases where the employment of the common caustic might be attended with danger.

NEW HOSPITAL AT ST. PETERSBURG.—The municipal authorities of St. Petersburg have determined to found an hospital for poor artizans, in commemoration of the emancipation of the serfs. It is to be called the Alexander Hospital, and the project has been favourably received by the Emperor.

A STRANGE VERDICT.—The Court of Colmar (France) has just decided that a person who swindles the public by pretending to discover diseases and treat them in the mesmeric trance, is not an impostor; and that the inefficacy of this kind of diagnosis has not as yet been scientifically proved.

LECTURES BY DR. W. T. GAIRDNER, ON PUBLIC HEALTH AND SANITARY REFORM.—W. T. Gairdner, M.D., F.R.C.S.E., commenced a course of twelve lectures, "On Public Health," in the Class-room, Surgeons' Hall, Nicolson-street, Edinburgh, on the 14th inst. There was a very large attendance of medical students.

MATICO IN GONORRHŒA.—An essence of matico has just been prepared in Paris, and used with copaiba in the proportion of five per cent., against gonorrhœa. The copaiba is said, by this mixture, to lose much of its disagreeable taste. A distilled water of matico is also recommended for injection. A few favourable cases are published in *L'Union Médicale* of the 18th inst.

A MEDICAL BET.—A discussion respecting diagnosis lately arose amongst the candidates for the doctor's degree at the University of Brussels. This diagnosis was extremely difficult and the professor cut short the discussion by proposing a bet, which was accepted. The matter ended in a dinner, which was marked by excellent humour and goodwill.

BATHS AND WASHHOUSES IN ST. PANCRAS.—At a meeting of the St. Pancras Vestry, held on the 16th inst., a committee was appointed to consider and report on the adoption of the Baths and Washhouses Act, with the view of applying the same to the parish of St. Pancras. It was stated that the population of the parish amounted, at the last Census, to 200,000 souls, and since the removal of the baths in George-street, Hampstead-road, it was entirely destitute of such valuable institutions.

ANNUAL EXHIBITION OF THE GRANT MEDICAL COLLEGE.—The *Bombay Times and Standard* states that this annual exhibition for the distribution of diplomas to the graduates and scholarships and prizes to the students, took place on April 15th—the Hon. W. E. Frere in the chair. Dr. Peet, the principal, read a long and elaborate report, to which the chairman responded by a very complimentary speech. It would appear that Grant College is now united with the Bombay University, which latter will henceforth confer the degrees. The examinations lasted several consecutive days; and out of ten candidates for the diploma, seven were admitted.

IMPROVEMENT IN THE ILLUMINATING POWER OF GAS.—Mr. Shepard, civil engineer, has introduced a scheme for raising the illuminating power of ordinary coal gas by making the gas pass over coal naphtha contained in a chamber adapted to the supply-pipe; the gas thus gets charged with hydro-carbons, and burns with greatly increased brilliancy. It is said that by the use of this invention fully one-half the quantity of gas commonly used may be saved without losing light, whilst it is easy to raise the illuminating power of poor gas from that of nine or ten candles to twenty. This method of raising the lighting value of a given quantity of gas promises, in our opinion, to be of service beyond merely economizing it. In the use of gas for domestic lighting, it will be no small advantage to be able to diminish the serious sanitary objections arising from the generation of injurious products of combustion.

ROYAL MEDICAL BENEVOLENT COLLEGE.—The Council of this institution has received a letter from Sir James Clark, Bart., to the effect that out of the proceeds of a subscription for a testimonial to Dr. Hodgkin an educational prize to the School of the said College has, under certain conditions, been established by a deed, the trustees being Sir James Clark, Dr. Sibson, and Dr. Hodgkin. The subscriptions amounted to £281 12s. 6d., out of which sum a commemorative piece of plate was presented to Mrs. Hodgkin, and after deducting the expenses, the remainder, £204 10s., was invested in Madras Irrigation Shares. The interest of this fund is guaranteed by the Indian Government, and at present produces £10 a year, which will be increased if the Company's dividends exceed 5 per cent. That the prize may be better worth striving for, it will only be given every alternate year, and the first competition will take place during this summer.

On the 17th instant, the anniversary festival of this institution, at which Lord Chelmsford presided, was held at Willis's-rooms. The College was founded about nine years ago by members of the medical profession as an asylum for those of their brethren who, from ill-health, want of professional success, or other adverse influences, have sunk into poverty, and for the widows of medical men in reduced circumstances. With it is combined a school, devoted in part to the gratuitous education of orphans of medical practitioners. The purposes are—first, to maintain an asylum for 100 pensioners, who must be duly-qualified medical men, or their widows, not under fifty years of age, possessing incomes of not more than £60 a year; second, to provide a school, in which a liberal education will be given to 200 boys, sons of duly-qualified medical gentlemen; and, third, to provide annuities, or occasional pecuniary assistance, to duly-qualified medical practitioners in distressed circumstances, or to their families, when they can be granted without detriment to the asylum or school. This institution, which is still in its infancy, was projected in 1851, and was opened in June, 1855, by the Prince Consort. The portion of the building destined for the school was, in May last, so far completed as to accommodate 150 boys; but only five pensioners' houses, containing twenty residences, had then been built. There are resident in the College twenty pensioners, each of whom is provided with three comfortably-furnished rooms, an allowance of coals, and a pension of £15 a year; also 150 boys, 40 of whom, being the foundation scholars, are educated and maintained at the expense of the institution. The College is possessed of funded property to the aggregate amount of £4450. A recent arrangement, admitting ladies as life governors on payment of £5 5s., has resulted in the receipt of £2300, her Majesty graciously heading the list with a donation of £100. The annual subscriptions last year amounted to £3150 odd, the donations to £1428, and certain bequests to £540, including £200 on account of one by the late Mrs. Jane Humberston, and £250 the balance of £1000 by the late Baroness Sternberg. Of a loan of £7000 on mortgage, £6000 has been paid off, leaving a balance of £1000. The subscriptions in aid of its funds after the dinner amounted to about £1000. To show the necessity for such an institution, it may be stated that, at the last election, there were eleven unsuccessful candidates for pensionerships, and thirty-one for foundation scholarships.

THE MAGDALEN HOSPITAL.—The 103rd anniversary of this hospital was celebrated on the 14th instant. When the so-called "social evil" is attracting so much attention, the following particulars of this ancient charity are highly interesting:—Previously to 1860, there had been 8938 admissions; in 1860 there were 176 admissions: making a total of 9159. Out of that number there had been reconciled to friends, placed in service or other reputable and industrious situations, 6223; 120 inmates had died; discharged at their own request, 1704; discharged for improper behaviour, 880; and there were in the hospital on the 3rd of January, 1861, 122; making the total number of admissions and discharges 9159. Of the number reconciled to friends, or placed in service, some undoubtedly had relapsed into their former errors; but many who had left the hospital at their own request had since behaved well, and several, to the certain knowledge of the committee, had never returned to evil courses. At the conclusion a liberal collection was made.

BIRMINGHAM AND MIDLAND COUNTIES MEDICAL REGISTRATION ASSOCIATION.—The second annual meeting of this Association was held at Birmingham on the 16th instant—Dr. Anthony, the retiring president, in the chair. The report, which was unanimously adopted, stated that, owing to the very loose construction of the Medical Act, the Committee (though hitherto successful in all their cases) had been compelled to exercise very great caution in regard to prosecutions, but that they were determined to carry any case into court if the evidence supplied was clear and decisive. The number of members was reported as 140. The treasurer reported a balance in hand of £3 8s. The following officers were elected for the ensuing year:—*President:* Mr. John Postgate. *Vice-Presidents:* Mr. C. Townsend, Mr. E. Cheshire, Mr. C. Male, and Mr. G. H. Whymper. *Treasurer:* Mr. George Yates. *Hon. Secretary:* Mr. J. Garner. *Solicitor:* Mr. A. Walter. *Committee:* Mr. A. Allcock, Dr. J. Anthony, Mr. R. L. Baker, Mr. C. L. Bloxham, Dr. Boisragon, Mr. J. Brown, Mr. C. Bracey, Mr. J. Carter, Mr. P. H. Chavasse, Mr. E. F. Dehane, Dr. Bell Fletcher, Dr. T. P. Heslop, Mr. W. E. Johnson, Mr. W. R. Jordan, Dr. H. Knight, Mr. C. S. Meeke, Dr. D. H. Monckton, Mr. O. Pemberton, Mr. W. W. Scofield, Dr. T. Thomson, Mr. W. L. Underhill, Mr. J. Warnock, Mr. H. Wilson, Mr. J. F. Woody.—The proceedings terminated by a vote of thanks to the retiring officers.

ASYLUM FOR IDIOTS AT EARLSWOOD.—The Annual Report of the Committee of this Asylum has been issued. It states that the past year has been one of decided progress and advantage. The inmates of the institution, including the attendants and staff, amount to upwards of 400 persons. Bequests of a munificent character, amounting to nearly £4000, are specially enumerated; and the Board state, in reference to the resolution to admit a certain number of cases for life, that the

appeal to the subscribers generally on this subject has produced upwards of £1500; while the benefit to the charity from the anniversary festival, at which Lord Stanley presided, was upwards of £2000. The Report of the Medical Superintendent, Dr. Down, shows that seventy-one patients have been admitted since the last annual meeting. Dr. Down bears testimony, after a visit of inspection to similar asylums in France, to the superiority of the institution at Earlswood. Among the agencies for ameliorating the condition of one of the most pitiable classes of the human family, industrial occupations, as a feature of the asylum, have been largely extended. The general health of the patients is stated to have been remarkably good. The various features of management comprehended in the asylum are separately adverted to in the report of the medical officer, and the retention of the farm is recommended as a valuable sanitary adjunct to the institution. The accounts from 31st December, 1859, to 31st December, 1860, show that the total receipts from all sources were £21,937 11*s.* 11*d.*; leaving a balance in hand of £1375 13*s.* 4*d.*

THE ECRASEUR USED IN LITHOTOMY.—M. Chassaignac, the inventor of the écraseur, lately performed lithotomy upon a little boy, aged three years, and used the écraseur instead of the knife. A curved trocar and canula were introduced into the prostate, either through the anal orifice or the skin above the anus (the description does not definitely say which); and through the canula, on the withdrawal of the trocar, the chain of the écraseur was passed, led by a fine bougie and thread. By working the screw, the chain cut, without hæmorrhage, through, first, the anterior portion of the spincter ani; secondly, that portion of the prostate which surrounds the neck of the bladder; thirdly, the whole of the membranous portion of the urethra; fourthly, the soft parts of the perinæum which cover this membranous portion up to the third of an inch above the anus. This accomplished, M. Chassaignac placed the nail of his left index-finger into the groove of the staff (which had been introduced at the commencement of the operation), and pushed a curette into the bladder, by the aid of which instrument the forceps were introduced. A calculus, about an inch in its longest diameter, was then extracted. The child had quite recovered at the end of *six weeks*. Much might be urged against the proceedings above described, notwithstanding the success which has attended the operation; but we leave to each of our readers to calculate the amount of mischief which the écraseur may do, and to set against it the hæmorrhage which generally attends lithotomy.

MEDICAL APPOINTMENTS.

GEORGE BUCHANAN, B.A., M.D. Lond., and W. H. Broadbent, M.D. Lond., have been elected to fill the vacant Assistant-Physicianships at the London Fever Hospital. Dr. Buchanan, who is an ex-medical and surgical scholar and gold medalist of the London University, and was formerly a resident medical officer of the Fever Hospital, holds the appointments of Physician to the Western General Dispensary, Assistant-Physician to the Hospital for Sick Children, and Medical Officer of Health to St. Giles's and St. George's, Bloomsbury. Dr. Broadbent is also a medical scholar and medalist of the London University, and holds the appointment of Medical Registrar to St. Mary's Hospital.—Dr. Downing, of Deptford, has been appointed one of the Surgeons to the Royal Kent Dispensary for the Deptford District, in the place of Dr. Bakewell, resigned.—Dr. George Thin has been appointed Medical Officer for the parish of Penicuick, Edinburgh, vacant by the death of Dr. Wm. Symington.—Mr. Geo. Fred. Chas. Foster has succeeded Mr. John Fryer (who resigned) as Assistant Resident Medical Officer of the Leeds General Infirmary.—Dr. G. Evans has been elected Surgeon to the Slebech District in the Narberth Poor-law Union, Pembrokeshire.—Mr. Matthew Algernon Adams, of Ware, Herts, has been appointed Resident Medical Officer and Secretary to the Public Dispensary, Leeds, vacant by the resignation of Mr. Hopkins; and Mr. Henry Collins, late Sub-Curator to the Leeds Medical School, has been appointed Assistant Resident Medical Officer.—Mr. Francis Owen has been appointed successor to the late Mr. W. L. Nash as Medical Officer of the Leatherhead District in the Epsom Union.—Dr. Robert Druitt, of Hertford-street, May-fair, has been appointed Analyst for the parish of St. George, Hanover-square.—Mr. John Magor Cardell has been elected Surgeon to the Salisbury Infirmary, in the room of Mr. John Andrews, resigned.

MEDICAL VACANCIES.

SIR CHARLES HASTINGS has resigned his post of Physician to the Worcester Infirmary; and Dr. Inglis and Dr. Hewitt are about to canvass for the appointment.—Part of the Lectureship on Surgery at the Bristol Medical School has become vacant by the death of Mr. Henry Clarke.—The appointment of Medical Officer for District No. 3 in the Chipping Sodbury Union, Gloucestershire, is vacant by the death of Mr. Ebenezer Bletchley.

MILITARY AND NAVAL MEDICAL INTELLIGENCE.

COMMISSIONS signed by Lords-Lieutenants.—Kent Artillery, 14th Corps: Harry Browne, Gent., to be Hon. Assist.-Surg. 1st Gloucestershire Artillery: Assist.-Surg. Francis Poole Lansdowne, to be Surgeon, vice Power, deceased: Wm. Kortright Brock, Gent., to be Assist.-Surg., vice Lansdowne, promoted. Staffordshire Rifle Volunteer Corps, 4th Administrative Batt., 30th Company: D. Johnson, Gent., to be Hon. Assist.-Surg. 1st Derbyshire Rifle Volunteers: Dr. H. Goode, to be Hon. Assist.-Surg., Surgeon J. Johnson's resignation having been accepted. East and North Yorkshire Artillery Militia: C. Robertson, M.D., to be Assist.-Surg. Northamptonshire Rifle Volunteers, 5th Company: G. Ashdown, Gent., to be Assist.-Surg. 2nd Administrative Batt. of Hants Rifle Volunteers: W. A. Raper, M.D., to be Surg.; W. Stedman, to be Assist.-Surg. Memoranda—4th Hants Rifle Volunteer Corps: Her Majesty has been graciously pleased to accept the resignation of the Commission held by Hon. Assist.-Surg. Stedman. 5th Hants Rifle Volunteer Corps: Her Majesty has been graciously pleased to accept the resignation of the Commission held by Surgeon Raper.

Assist.-Surg. Dr. P. Mansfield, to the *Wellesley*; Edward F. Mills, to the *Donegal*. Assist.-Surg. Edward M'Carthy, to the *Steady*.—*London Gazette*.

Births, Marriages, and Deaths.

BIRTHS.

On the 14th inst., at Rye-lane, Peckham, the wife of MAXWELL T. MASTERS, Esq., M.R.C.S., Lecturer on Botany at St. George's Hospital, of a son.

On the 15th inst., at Eccleston-terrace South, the wife of Geo. T. Fincham, M.D., of a son.

On the 21st inst., at Bexley-place, Greenwich, the wife of H. Rowland Palmer, Esq., M.R.C.S., of a daughter.

On the 21st inst., at Oxford-terrace, Blackheath, the wife of Chas. M'Shane, Esq., Surgeon Royal Navy, of a daughter.

MARRIAGES.

On the 21st of March, at Meean-Meer, Punjab, the Rev. Charles Morrison, A.M., 79th Highlanders, to Jane, eldest daughter of W. A. Green, Esq., Deputy Inspector-General of Hospitals, Lahore Division.

On the 14th inst., at Meldreth, Cambridgeshire, Geo. W. Lawrence, M.D., of Fulbourn, to Louisa, youngest daughter of the late James Gibbs, Esq., of Mount-street, Grosvenor-square.

On the 16th inst., at Royston, Henry Lankester, Esq., M.R.C.S., of Leicester, to Rachel Crosby, second daughter of John Crosby Squire, Esq., of Royston.

On the 16th inst., at St. Luke's Church, Chelsea, Wm. M. Hatfield, Esq., M.R.C.S., of Chelsea, to Augusta, second daughter of James White, Esq., of Edith-grove, West Brompton.

DEATHS.

On the 26th ult., at Constantinople, of fever, Edward G. Steggall, M.D., second son of J. Steggall, M.D., of Southampton-street, Bloomsbury-square.

On the 9th inst., at Hope-street, Edinburgh, Margaret Clunes, second daughter of the late J. Innes, Esq., Surgeon H.E.I.C.S., Bengal Establishment.

On the 12th inst., Amy Conway, second daughter of John Pyemont, Esq., of Kensington-park-gardens, and granddaughter of Samuel Smith, Esq., F.R.C.S., of Park-place, Leeds, Senior Surgeon to the Leeds General Infirmary, aged 10.

On the 15th inst., at Wantage, Berks, of congestion of the brain, James Harvey, son of Thos. F. Clarke, M.D., aged 5.

On the 17th inst., at Ryde, Isle of Wight, Mark Brown, M.D., aged 55.

On the 19th inst., at Caledonia-place, Emily Jane, daughter of Robert H. Popham, Esq., L.F.P.S. Glas., aged 6 months.

Medical Diary of the Week.

MONDAY, MAY 27
- ROYAL FREE HOSPITAL.—Operations, 2 P.M.
- METROPOLITAN FREE HOSPITAL. — Operations, 2 P.M.
- GUY'S HOSPITAL.—Operations, 1½ P.M.
- WESTMINSTER HOSPITAL. — The following Operations will be performed at 2 P.M.:—By Mr. Holt: for Nævus; for Disease of Os Calcis; for Necrosis of Tibia. — By Mr. Hilliman: for Stricture of Rectum; for Disease of Os Calcis.
- ROYAL INSTITUTION. — 3 P.M. Mr. John Hullah, "On the History of Modern Music."

TUESDAY, MAY 28
- ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. — 8½ P.M. Dr. Dickinson, "On Diseases of the Kidney, accompanied by Albuminuria." — Mr. E. Sercombe, "On Uterine Derangement apparently depending upon Diseased Teeth."—Mr. Henry Lee, "On Effects of Reflex Nervous Irritation from Syphilitic Disease of the Bones of the Skull."

WEDNESDAY, MAY 29
- MIDDLESEX HOSPITAL.—Operations, 1 P.M.
- ST. MARY'S HOSPITAL.—Operations, 1 P.M.
- UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M.
- ROYAL ORTHOPÆDIC HOSPITAL. — Operations, 2 P.M.

THURSDAY, MAY 30
- ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
- CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 1 P.M.
- LONDON HOSPITAL.—Operations, 1½ P.M.
- GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M.
- LONDON SURGICAL HOME.—Operations, 2 P.M.
- ROYAL INSTITUTION.—3 P.M. Mr. Pengelly, "On the Devonian Age of the World."
- JUNIOR MEDICAL SOCIETY OF LONDON.—8 P.M. First Ordinary Meeting at Charing-cross Hospital.—Mr. E. A. Browne, "On Excision of the Knee-joint."

FRIDAY, MAY 31
- WESTMINSTER OPHTHALMIC HOSPITAL. — Operations, 1½ P.M.
- ROYAL INSTITUTION. — 8 P.M. Dr. W. V. Waller, "On the Nutrition and Reparation of Nerves."

SATURDAY, JUNE 1
- ST. THOMAS'S HOSPITAL.—Operations, 1 P.M.
- ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
- KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
- CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
- ROYAL INSTITUTION. — 3 P.M. Prof. MAX MÜLLER, "On the Science of Language."

To Correspondents.

Amalgamation.—The Epidemiological Society has determined to amalgamate with the Royal Medical and Chirurgical Society. The other Societies have not hitherto availed themselves of the offer held out to them, and we understand that there is no probability that it will be accepted. If a union *could* be formed under equitable circumstances, it could not fail to be attended with beneficial results. We foresaw the difficulties of amalgamation, and these difficulties, it appears, are regarded as insurmountable on the part of those who administer the affairs of the more important Medical Societies of London. In the absence of equal privileges, equal rights, and equal status, there is no reason to expect that the desired union will be effected. The Medical and Chirurgical Society would, doubtless, add to its importance and usefulness by attaching to itself the other Medical Societies in the metropolis; but it must be recollected that these Societies are founded upon a more liberal basis, and are more in advance than their elder sister. It would be too much to expect that they would ally themselves with an Association which has failed to conform to the spirit of the age, which is one of progress. With its members, its funds, and its high reputation, no Society has done so little as the Medical and Chirurgical to adapt itself to the requirements of the public and the profession. So long as it remains in this state of apathetic indifference, and is content to repose upon the laurels which it obtained in former times, it has no just right to assume a superiority over other kindred institutions. Let it show itself worthy of its position and its means, and an amalgamation may be effected; but so long as it ignores the doctrine of progress, it must content itself with its respectability and the light which is reflected upon it by the past. The manifest duty of a Society which presumes to lead and to be the head of the profession, is to so shape its course as to inspire confidence in its usefulness and claims to support. It must become more liberal in its constitution, more watchful of its reputation, and more conciliatory in its government. Above all, it must give evidence to the profession that it is entitled to be the leader in all those matters which appertain to the advancement of the profession and to the enlightenment of the public.

A CORRESPONDENT states that he would feel greatly obliged if any resident near the Undercliffe, at the Isle of Wight, or at Torquay, Devon, would inform him what is the *lowest night temperature* at either of those places at the present period of the year.

Dr. Barnes' Clinical Lecture on "Placenta Prævia" shall be published next week.

A Subscriber, (Hodnet.)—He would not be eligible for the appointment.

MEDICAL ASSISTANTS' ASSOCIATION.

To the Editor of THE LANCET.

SIR,—In compliance with the request made by "A Qualified Assistant" in your last impression, I have forwarded to you the objects of the "Medical Assistants' Protection and Provident Society, and shall feel greatly obliged if you will insert the enclosed copy in your columns. Its objects are—

1. To provide a fund, of which medical assistants may avail themselves when incapacitated by age or sickness from attending to their professional duties.

2. To render timely assistance to members at those occasional periods when they are not holding appointments.

3. To establish a recognised medium for the ready procuring of appointments for assistants, with a proper remuneration for their services.

4. To avail themselves of the various means which they will possess *as a united body* of promoting their real interests and general welfare.

These are the objects contemplated by the Association, and which, if carried out, will confer a great benefit on medical assistants. I trust that a determined and united effort will be made, and that without loss of time. I do not say that I am disappointed that a greater amount of interest has not at present been evinced on the subject of the Society, for its appearance in public is but of recent date, and its objects have not until to-day been published. Experience convinces me of its usefulness and desirability. Many grey-headed men are still assistants, with no prospect of better things; many are incapacitated for their professional pursuits through *temporary sickness* or declining health; and not a few *well qualified and recommended* assistants remain for weeks and even months without engagements, as appointments are not always vacant. In all these cases the Society would afford timely and liberal aid.

I therefore hope that from this day life and energy will be thrown into the project. Funds require to be raised, even for preliminary expenses. An active and permanent Committee must be formed; means must be taken to place the claims of the Society before every assistant, and principal also, in the kingdom; and every endeavour made to obtain the sympathy, support, and subscription of every member of the medical profession.

I am, Sir, your obedient servant,
1, Southampton-street, Strand, May 22, 1861. CHAS. JAR. SAYER.

Philanthropus, M.P.—Mr. Griffin's address is Royal-terrace, Weymouth. The information required, we have no doubt, will be furnished by that gentleman, who is thoroughly conversant with all matters relating to medical attendance upon the poor.

Dr. Hawkes' communication, "On Enlargement of the Thyroid," shall appear in an early number.

F. G. S.—We regret to see a publication which, like the "A. B. C. Railway Guide," must be taken up by females, insert such filthy advertisements.

A Pulmonaire asks which is the best work on the Climate of Madeira, and what are its effects on pulmonary disease.

H. H. H.—In the one case it is the law of the land which is referred to; in the other, merely a "bye-law" of the College, which is overruled by the statute.

Query shall receive the information if he will tell us where it can be sent.

Pater.—The Society for the Relief of Widows and Orphans of Medical Men in London and its Vicinity is in possession of ample funds, and has appealed on many occasions to those whose interest it is to become subscribers to the institution. It is lamentable to reflect that so few avail themselves of the advantages offered to them. We have reason to know that none regret this apathy more than the gentlemen who administer the funds of the Society. The receipts of the past year were considerably in excess of the expenditure.

Advertiser, (Preston.)—Unless it can be shown that Dr. Spencer is cognizant of the weekly advertising of his name in the pages of the *Preston Guardian,* it is impossible to hold *him* responsible for the *mistakes* of some "good-natured friend."

Dr. M'Cormac.—The pressure upon our space is so great, that we regret we cannot insert the "reply."

Student, (Guy's.)—The first meeting of the Junior Medical Society of London will be held at Charing-cross Hospital on Thursday next, at eight P.M.

Candidate.—The licence will confer the necessary qualification for public appointments. It is not probable that the Society of Apothecaries will further dispute the right of the College of Physicians to grant the licence.

ASSISTANT-SURGEONS IN THE ARMY.

To the Editor of THE LANCET.

SIR,—An article appeared in your issue of April 27th on the subject of placing the assistant-surgeons on half-pay. The question is—Are three medical officers necessary for 800 men in the spring of life? It is not generally known that medical officers of the Army have employments far different from those in civil life. They have an immense amount of writing to perform, returns to fill up, and an annual report to write of the geography, topography, &c., of the stations they live in, which, if published in your journal, would afford great help to their successors. The medical officer has parades to attend, and, besides attending the sick of 800, has to attend to the call of the officer commanding, the officers' wives and children, and the other women and children of the corps. The longer the regiment has been abroad the greater their number becomes. I think they might do the duty of paymaster or perhaps quartermaster; and the employment of some staff assistant-surgeons on different stations, to do the duty of the medical officers who require leave of absence, as a fortnight occasionally or a month at home, would be an economy, instead of having so many attached to regiments. This could be done by the employment of an assistant-surgeon of some years' standing. I would rather reduce the number of ensigns in a regiment than place an assistant-surgeon on half-pay. I think the medical officer should work, and have a holiday. I should employ medical officers at about 10s. or 12s. a day each, and give them half-pay according to their service. Yours, &c.,
May, 1861. G. G. WEBB.

Æsculapius must make a written application to the Secretary of the Admiralty, on the receipt of which he will be furnished with a printed form to be filled up. All the particulars relating to the examination will be found in the Students' Number of THE LANCET. There are no fixed periods for examination.

I. B. H.—The request of our correspondent shall receive full attention next week.

The Census.—The first returns of the population, as counted on the 1st April, will be presented to Parliament in June.

M.D., (Cheltenham.)—The Council as yet have "made no sign" of publishing the British Pharmacopœia. It is not at all likely to appear this year.

THE communications of *Mr. Lansdown* and *Mr. Jardine Murray* are in type, but unavoidably postponed.

Leeds may confidently place the work in the hands of the publisher named.

MILITIA SURGEONS.

To the Editor of THE LANCET.

SIR,—I would take the liberty of informing "A Victimized Militia Surgeon" that all his brethren are not in the same predicament as himself, as my allowances during the preliminary training have exceeded by a pound per week what I should have received had I received my training pay, and I know mine is not a solitary instance. Nevertheless, I much prefer a certain to an uncertain payment. Your obedient servant,
May, 1861. M.R.C.S.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Robertson; Dr. J. Hughes Bennett, Edinburgh; Mr. J. Lansdown, Bristol; Mr. T. C. Beatty, Seaham; Dr. Turnbull, Melbourne; Mr. T. Radford; Mr. Cowen, Colombo, Ceylon; Dr. Honigberger; Dr. Cameron; Dr. Canolly; Mr. G. G. Wyer; Mr. J. Garner; Mr. G. Arnison; Mr. T. J. Woodhouse; Mr. Marley; Mr. Ballard; Dr. Ramsbotham; Mr. Squire; Mr. W. Maltby; Mr. C. Arnold, Crowle, (with enclosure;) Messrs. Chaldicott, Dorking, (with enclosure;) Dr. Munroe, Hull, (with enclosure;) Dr. Skipton, Aldershott, (with enclosure;) Mr. E. Lilly, Bridgwater, (with enclosure;) Mr. T. P. Wright, Tiverton, (with enclosure;) Mrs. Bingham, (with enclosure;) Mr. Frith; Mr. F. W. Way, Southsea, (with enclosure;) Messrs. Johnson and Horton, Dudley; Mr. J. Edwards, Mold, (with enclosure;) Mr. C. L. Evershed, Arundel; Mr. J. Gedges, Bury; Mr. J. H. Edwards, Llangeful; Dr. Sayer; Mr. W. Crofts, Grande-burgh, (with enclosure;) Dr. M'Cormac, Belfast; Dr. Latiky; Mr. L. A. Lawrence, Southampton; Dr. Evans, Narberth, (with enclosure;) Mr. J. Dearden, Halifax, (with enclosure;) Mr. C. J. Herbert; Mr. Bedworth, (with enclosure;) Mr. E. Layng, Broadstairs; Dr. Livett, Wells, (with enclosure;) Mr. E. C. Faithfull, Brighton, (with enclosure;) Mr. H. F. Howard, New Buckenham, (with enclosure;) Nil Desperandum; M.D.; An Old Meath Pupil; A Colliery Surgeon; X. Y. Z.; A Subscriber, Durham; A Qualified Assistant; M.D., Bow, (with enclosure;) Query; A Subscriber, Hodnet; &c. &c.

THE *Hobart Town Mercury,* the *City Press,* and the *Wisbeach Advertiser* have been received.